CONSTRUCTION OF RE-SCREEN RESULTS IN A UNIVERSAL NEWBORN HEARING SCREENING PROGRAM: THE DISCOURSES OF PARENTS AND A SCREENER

by

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ABSTRACT

Parents and a screener may formulate in different ways the meaning of screen results that are disclosed in a universal newborn hearing screening (UNHS) program. The purpose of the present qualitative study was to examine how 5 parents and 1 screener who participated in 1 provincial UNHS program in Canada constructed meanings about screen results and also ways that the screening context may have influenced the development of constructed meanings. Sources of data were 14 interactions consisting of 4 videotaped parent-screener interactions and 10 individual, follow-up interviews between the researcher and each participant. One screener was selected in order to explore in-depth the inconsistencies and variation in accounts that just 1 screener could provide in various contexts where the screen results were discussed. Four of the 5 mothers had infants who had been referred from an initial stage of screening and passed the second stage of screening, whereas 1 mother had an infant who received a refer result at the second stage of screening and was subsequently diagnosed with a hearing loss. The language of the interactions was analyzed using a discourse analytic approach. The findings of the study included the following: 1) the screener's talk was predominant in each of the screening interactions and included a preponderance of yes-no questions, requests, and declarative statements; 2) parents initiated infrequently during screening interactions and asked few questions; and 3) the parents' and the screener's accounts of the screen results differed depending upon the social context of the interaction. Two social implications of these findings included the potential for some parents not to express their concerns about the screen results with the screener and
also for parents and the screener to lack correspondence in their actions, both verbal and non-verbal. The present study has implications for examining the discourse of disclosure sessions between the screener and parents as collaborative and interactive opportunities for meaning construction. The adoption of more parent-centered as opposed to instrumental-focused approaches in the UNHS program may help to create a social context that is conducive to parents' expression of concerns and questions with the UNHS screener.
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CHAPTER ONE: INTRODUCTION

Overview

Deafness has been referred to as the "unseen handicap" (Styles, 1986) because, unlike most other physical disabilities, it is not detectable from simple observation. Difficulty in detecting deafness has translated into late diagnosis of permanent hearing loss and subsequent developmental delays in children with hearing loss. Advances in technology in the past two decades, however, have contributed to the development of screening techniques that allow infants to be screened for hearing loss soon after birth and prior to hospital discharge (American Academy of Pediatrics, 1999). Newborn screening is a public health activity aimed at early identification of infants who are affected by certain genetic, metabolic, or infectious conditions and can lead to early intervention that may significantly reduce the morbidity, mortality, and associated disabilities in affected infants (Task Force on Newborn Screening, 2000).

Universal newborn hearing screening (UNHS) is an approach that enables early detection of hearing loss in newborns. Through the use of specialized hearing screens, infants with hearing loss may be identified prior to 3 months of age (American Academy of Pediatrics, 1999). Early identification of hearing loss through UNHS and early intervention has been associated with improved developmental outcomes in children (Yoshinaga-Itano, 1999; Yoshinaga-Itano & Apuzzo, 1998; Yoshinaga-Itano, Sedey, Coulter, & Mehl, 1998). Although research has been conducted pertaining to the effects of early identification of hearing loss on child
development outcomes, relatively little empirical attention has focussed upon the process of screening and, more specifically, parents’ and a screener’s experiences of this process.

One particular aspect of the process that has not received extensive attention thus far in previous research is a screener’s disclosure of screen results to parents in UNHS programs. The word “disclosure” is suggestive of a one-way transmittal of information and meanings from one person to another, and in UNHS programs, from a screener to parents. However, a theoretical tenet of the present investigation is that parents and the screener may be co-participants in a disclosure session in which each participant has unique perspectives that are shared, exchanged, and co-constructed with one another. The present qualitative investigation examined this interactive process in depth, as well as the accounts and descriptions parents and one screener provided pertaining to the screen results that were disclosed in a UNHS context.

Background to the Study

UNHS is rapidly becoming standard preventative healthcare practice across Canada, the United States, and the United Kingdom. A 20 center pilot project in the United Kingdom was developed with the aim of screening all infants in the country for hearing loss (Mencher, Davis, DeVoe, & Beresford, 2001). In the United States, as of November, 2004, forty-two states and the District of Columbia had legislation that enabled UNHS or had voluntary programs in place (American Speech-Language Hearing Association, 2004). In Canada, the Canadian Association of
Speech-Language Pathologists and Audiologists and the Canadian Academy of Audiology strongly advocate for the development of universal hearing screening programs (Durieux-Smith, Seewald, & Hyde, 1999). Lobbying efforts from members of the medical and rehabilitation medicine communities for the development of UNHS programs were influential in the recent inception of UNHS initiatives in Ontario, Alberta, and British Columbia, as well as the development in September, 2000, of a Canadian Working Group on Childhood Hearing, the aim of which is to develop guidelines for early hearing detection and intervention in all parts of Canada.

According to a recent survey, approximately 10% of hospitals across Canada practised high-risk hearing screening with still fewer hospitals implementing UNHS programs (Brown, Dort, & Sauve, 2001). High-risk hearing screening occurs when infants are screened for hearing loss if they are in the Neonatal Intensive Care Unit or are born with risk factors associated with congenital hearing loss, such as family history of congenital sensorineural hearing loss, in-utero infection, craniofacial anomalies, or low birth weight (Joint Committee on Infant Hearing, 1994). Unfortunately, in Canada the low number of newborn hearing screening programs, either high-risk or UNHS, as well as high prevalence rates of congenital hearing loss, has resulted in late hearing detection and intervention for many infants born with permanent, congenital hearing loss.

The incidence of congenital hearing loss is between 1 to 5 per 1000 births, with 1 per 1000 having bilateral, severe, sensorineural hearing loss (i.e., damage to the cochlea and nerve fibers of the auditory system); 2 per 1000 having unilateral,
severe, sensorineural hearing loss; and 5 per 1000 having mild, sensorineural hearing loss (Hyde & Riko, 2000). These rates are considerably higher than the incidence rates of other conditions that are frequently screened in newborns, such as phenylketonuria (1 per 14,000 births), galactosemia (1 per 59,000 births), congenital hypothyroidism (1 per 3,300 births), biotinidase deficiency (1 per 80,000 births), and congenital adrenal hyperplasia (1 per 20,000 births; Kwon & Farrell, 2000). In addition, more than 50% of infants with congenital hearing loss are born without any identifiable risk factors; therefore, their hearing losses would not be detected from high-risk hearing screening alone (Mehl & Thomson, 1998). Before the advent of UNHS, diagnosis of congenital hearing loss and subsequent intervention did not occur until a child was well over one year of age (American Academy of Pediatrics, 1999; Barsky-Firkser & Sun, 1997; Mehl & Thomson, 1998; Yoshinaga-Itano, 1999; Yoshinaga-Itano & Sedey, 1999). This late identification of congenital hearing loss was associated with language delays ranging from 12 months to 36 months of age (Mehl & Thomson, 1998).

Early identification of hearing loss through UNHS screening programs has been described as beneficial, feasible, necessary, and cost-effective (Barsky-Firkser & Sun, 1997; Mehl & Thomson, 1998). Support for UNHS programs, however, is not ubiquitous (Campbell, Gravel, & Reinersman, 1999a, 1999b). Concerns have arisen as to whether the widespread implementation of universal screening programs has been too hasty, whether further empirically-based evidence for the benefits of UNHS programs is necessary prior to implementation of any screening program, and whether the costs of UNHS may, in fact, outweigh the benefits. According to
Paradise (1999), the majority of newborns who receive a positive result from an initial screen will later be found not to have a hearing loss (i.e., false-positive). A positive result obtained from an initial screen indicates that a possibility for a hearing loss exists but that the results are inconclusive until further hearing screens can be conducted. A false-positive result occurs when a child who has received a positive result from an initial hearing screen is subsequently found to have normal hearing. Paradise contended that false-positive results can have profound, long-lasting emotional effects on certain parents that may influence development of the child socially and emotionally. Furthermore, in addition to triggering anxious reactions in parents, findings of a positive result, whether false-positive or an actual positive, can lead to an array of further screening that may be costly and, at times, unnecessary. Early detection of hearing loss in infants has also been suggested to negatively impact parent-child bonding, because it may change the parent’s behaviour toward the child and thus create greater emotional distance between parent and child (Kuyper, 1981; Paradise, 1999). For these reasons, UNHS has been described as “ill considered,” and “ill-advised,” and it has been suggested that it “…might result in more harm than good” (Bess & Paradise, 1994, p. 330). It is important to note, however, that no research data have been submitted that would verify these propositions.

Parents’ reactions to screening may be influenced by characteristics and qualities of parents such as their personality and beliefs, as well as by factors located in their immediate (e.g., family) and more peripheral social context (e.g., services and professionals in the community; Cicchetti & Toth, 1997). Screeners in
UNHS programs may be one important factor influencing parents' social-emotional well-being during and following screening. In UNHS programs screeners play primary roles in the implementation of screening and follow-up with families. UNHS stimulates a chain of screening events where screeners may not only conduct the screening procedures but also provide the parents with information regarding the results of the hearing screen. Parents, on the other hand, follow the lead and direction of screeners, as their infant experiences a series of screens where the results may be perceived as beyond their control. Parents may endure periods of ambiguity and uncertainty of the likelihood that the screen indicates their infant has a hearing loss. Parents in this context must not only cope with the meaning of the final result, but also with their feelings and interpretations at each stage of the screening process. This suggests that screeners may have a profound impact on the way in which parents emotionally respond to UNHS screening events.

Purpose and Rationale of the Study

The purpose of the present qualitative investigation was to examine how discourses surrounding the disclosure of screen results in an UNHS program were constructed. Discourse, in the context of this study, refers to language that shapes and, at the same time, is shaped by social processes. A particular language of disclosure of screen results may be used as social practices within the context of social institutions and processes that collectively influence parents' and a screener's meanings and behaviours within disclosure sessions in UNHS programs. At the same time, the language that is used in practice in UNHS programs may shape the
course and development of the social processes and institutions that surround UNHS. The current investigation examines ways in which parents and screeners construct accounts of re-screen results through talk and interaction.

**Interaction between Parents and Screeners**

Although the Joint Committee on Infant Hearing provides general guidelines for delivery of a UNHS program, each birthing hospital is responsible for developing specific screening protocols, selecting screening methods, training staff, developing strategies to communicate with parents, ensuring and monitoring follow-up, and securing funding for the program. This means that there is considerable variability in the way in which screen results may be shared with parents within each UNHS program.

Screeners and their interactions with parents during UNHS may be influential on how parents respond to and cope in the screening process. In UNHS programs, screeners are often the first people who discuss screening with parents and are responsible for relaying the screen results and their meaning to parents. Screeners actively shape the way a screen result is presented to parents. In one study (Magnuson & Hergils, 1999) examining the emotional reactions of parents involved in universal newborn screening programs, the findings were suggestive of screeners' great impact on parents' reactions to UNHS. The researchers attributed parents' negative reactions to difficulties in parent-screener communication, the information and support given to parents, the timeliness of providing information to parents, and accessibility of screener information during the period of hearing screening. Clemens, Davis, & Bailey (2000) suggested that greater attention must be placed
upon communication between screeners and parents and particularly the ways in which parents and screeners construct versions of screen results.

Statement of Intent

Little empirical attention has focussed upon parents’ and a screener’s experiences of screening and, moreover, their interactive exchanges during the disclosure of screen results. A paucity of research exists involving in-depth, qualitative investigation of the association between parent-screener interaction and its impact on their construction of screen results. The present qualitative investigation aimed to elucidate the nature of parent-screener communication in one UNHS program using a discourse analytic approach. A discourse analytic approach allowed for in-depth description of the language that 1 screener used to describe and explain re-screen results to 5 mothers, as well the development of hypotheses about the functions of language use within the context of varying interactions.

One screener was selected as a participant in this study in order to examine the variability in versions and accounts of screen results that were possible even from a single screener. Focusing upon a single case involving 1 screener’s interactions with 5 English-speaking parents within one UNHS program had particular limitations, particularly if one’s aim was to generalize the findings to other screeners and parents participating in other UNHS programs. However, the aim of a discourse analytic approach was not to generate a finite set of categories or concepts that would characterize a single discourse and apply to all UNHS programs. Rather, the present investigation was aimed at performing an in-depth
analysis that would highlight the variability and inconsistency that were possible when examined from a perspective of the construction of *multiple* discourses and meanings within multiple contexts. In other words, the discourse analytic approach was well suited to the researcher's aims of conducting an investigation that would bring depth, multiplicity, and specificity in discussing the findings as opposed to breadth and generality.

The present investigation examined the versions of screen results that 5 mothers and 1 screener from one UNHS program presented within the context of varying interactions, including interactions during a screening appointment and follow-up interviews. The versions were examined with respect to two research questions. First, what is the discourse surrounding the disclosure of re-screen results and how is this discourse constructed? Specifically, my interest was in examining ways in which meanings of screen results were constructed and the various functions that their accounts served within the interaction. Second, what are potential social influences that may shape the ways that meanings of the screen results are constructed?

**Theoretical Significance of the Study**

Research from the United States, where the majority of states have approved legislation to enact UNHS, has greatly contributed to the development of a theoretical framework for understanding parents' social-emotional well-being in UNHS programs. Further research, however, is needed that pertains to the experiences of parents and screeners in Canada, where provincial UNHS programs
began in 2001 and 2002 in Alberta and Ontario, respectively. It was anticipated that the present investigation would make a contribution to the empirical literature on UNHS because the theoretical concepts that emerged were grounded in the experiences of parents and a screener exclusively in Canada. By exploring the interrelationship between disclosure events, screener-parent interaction, and linguistic constructions of screen results, the present study also indicated the importance of attending to the process of screening rather than only the outcomes. Data acquired from this investigation may also have contributed to theories of meaning construction by exploring the impact that interaction had on processes of meaning making.

In addition, the present research may have contributed to improved understanding of the social-emotional well-being of parents involved in UNHS programs. The social and emotional well-being of parents involved in UNHS programs is of significant importance because it directly impacts parents' ability to care, nurture, and support their infants and, furthermore, may influence parent-infant interaction and bonding and, thus, shapes the development of the parent-child relationship. Previously, researchers have investigated more generally the nature of parents' emotional reactions to screening, rather than focusing specifically upon how parents construct the screen results. The present research involved the investigation of ways in which parents develop meanings of screen results. This information related to parents' process of meaning-making may also contribute to a theoretical framework for understanding the ways in which parents in other types of
newborn screening programs for conditions such as phenylketonuria and congenital hypothyroidism construct meanings of their infants' screen results.

Practical Significance of the Study

By examining the effects of preventative public health practices such as UNHS and identifying supportive professional services, the present research may facilitate the development of interventions for families involved in UNHS programs in Canada that support optimal health, development, and well-being. The present research, for example, identified specific program features including the screener's language practices in a UNHS program and their impact on parents' accounts of UNHS screen results, and, therefore, provided information that may aid in improving the quality of services within the provincial UNHS program.

Parent drop-out rates from UNHS programs after the initial screen may be ameliorated through the identification of specific aspects of disclosure that helped parents feel supported and informed throughout the screening process. Findings from one study (Mehl & Thomson, 1998) indicated that more than 50% of those infants who did not pass the initial hearing screen did not return for follow-up screening. The information acquired from the present research may help to improve follow-up of parents and their infants to subsequent stages of screening and diagnostic testing. Additionally, findings from the present research may facilitate the development of interventions and professional support in UNHS programs that are maximally sensitive to parents' needs and social-emotional well-being at each stage of the screening process.
Parents in UNHS programs, too, may benefit from learning more about the screener and his or her accounts of the screen results. Through a better understanding of the nature of parent-screener interactions, parents may feel more informed about the screening process and, perhaps, more supported by the screener. By learning more about parent-screener interaction in UNHS programs, it is possible that parents and the screener can develop a repertoire of strategies that will facilitate each of them to communicate goals, expectations, and needs to one another more clearly. This may encourage some parents and the screener to become more reflective of their own roles in interaction during UNHS and, thus, be in a better position to make adjustments if necessary.

Definition of Terms

The following list includes terms that will be used throughout this document. Each term has been defined with reference to the context of the present study.

Universal newborn hearing screening (UNHS): screening procedures designed to identify infants with the potential for hearing loss; may involve a two-stage screening protocol with specific “pass” and “refer” criteria; ensures that infants are diagnosed prior to three months of age and that they receive appropriate treatment or intervention by six months of age; is associated with improved developmental outcomes in children who are born with hearing loss.

Screeners: professionals, such as technicians, volunteers, nurses, or audiologists, who work within a universal newborn hearing screening program and who are responsible for communicating screen results to parents, arranging subsequent screens or diagnostic testing, and providing guidance to parents about screening and the meaning of screen results.

1 Early Hearing Detection and Intervention (EHDI) also refers to universal newborn hearing screening procedures that allow identification of hearing loss by three months of age and early intervention by six months of age. For the purpose of consistency, UNHS will be used throughout this document.
Stage One: the first stage of a two-stage hearing screening protocol in a UNHS program; typically occurs soon after birth, in-hospital, and prior to the parent’s and infant’s discharge from the hospital; results from this stage of screening, if inconclusive or a “refer,” may result in referral to Stage Two of screening.

Stage Two: the second stage of a two-stage hearing screening protocol in a UNHS program; typically occurs at outpatient facilities and within one month of the initial stage of screening; results from this stage may involve referral to further screening or to diagnostic testing.

Disclosure meetings/sessions: face-to-face meetings between the screener and parents for the specific purpose of discussing the screening process and the results of the hearing screen, including the specific type of result, what is meant by the result, and further steps required (i.e., the screening interactions).

Re-screen: the screening of infants' hearing that occurs at Stage Two of a two-stage screening protocol when a “refer” or inconclusive result has been obtained from Stage One.

Positive screen result: a “refer” result that is inconclusive and suggests the need for further screening if after Stage One and the need for diagnostic testing if after Stage Two.

Negative screen result: a “pass” result that suggests that the infant has not been identified as at risk for hearing loss.

Overview of the Study

The purpose of the present study was to explore in-depth, through qualitative exploration, 5 parents’ and 1 screener’s constructions of screen results and ways that these constructions may impact and be impacted by parent-screener interaction during the disclosure of screen results in a UNHS context. A review of the literature pertaining to parents’ and screeners’ experiences within UNHS programs is presented in Chapter Two. My interpretive framework for understanding processes of meaning construction and the process of developing linguistic versions is presented in Chapter Three. Features of the research site, a description of the
participants, and the method of data collection and analysis is also presented in Chapter Three. The outcomes of my analysis of the data are described in Chapter Four. A description of the study’s findings with respect to implications and future considerations for research is presented in Chapter Five.
CHAPTER TWO: REVIEW OF THE RELEVANT LITERATURE

Overview

Chapter Two includes a review of the relevant literature related to 1) the context of hearing loss identification, 2) parents' perspectives of UNHS programs, 3) screeners' perspectives of UNHS programs, and, finally, 4) interactions between parents and screeners within a UNHS context. This review of previous research of parents' and screeners' experiences within UNHS programs was organized according to whether the research pertained to the content or process of disclosure of screen results. A parent may react to the content of disclosure session, such as whether the infant's screen result is a pass or refer, and also the process of disclosure, including the manner in which the screener shares news of the result with the parent. Similarly, screeners may not only have particular beliefs about the content or topics that are discussed during the disclosure session (e.g., nature of the result, follow-up activities), but also beliefs about the process of disclosure or ways in which they communicate news of screen results to parents. The interpretations and perspectives of parents and screeners may have a profound impact not only on shaping relationships and communicative exchanges between parents and screeners, but also on each individual's emotional adjustment.

Although the focus of this chapter is on parents' and screeners' experiences within UNHS programs, literature related to parents' and screeners' experiences in other types of newborn screening programs, such as screening programs for metabolic conditions, is also referenced occasionally. Although the results from other
types of screening programs may not be generalizeable to UNHS; this body of literature may be helpful in uncovering avenues for further exploration within the UNHS context. Newborn screening programs for metabolic conditions, such as phenylketonuria and congenital hypothyroidism, are part of standard post-natal assessment in many countries around the world. Results from a survey (Loeber, Webster, & Aznarez, 1999) of newborn screening laboratories in 26 countries in North and Latin America, Europe, Asia, and Australia indicated that all newborn screening programs surveyed screened for phenylketonuria and congenital hypothyroidism, but that variability existed in the countries that screened for other conditions such as cystic fibrosis and sickle cell disease. The practices of these other types of screening programs have paved the way for more recently developed newborn screening programs, such as UNHS, through the identification of issues of primary importance in the development and implementation of universal newborn screening programs (e.g., data management, follow-up). Therefore, exploring the literature related to parents’ and professionals’ experiences within these widespread and consistently-practised newborn screening programs may be helpful in acquiring an understanding of parents’ experiences within UNHS programs.

Before examining parents and screeners and their interactions during a UNHS disclosure meeting, the broader context of the interactive exchange is discussed. Specifically, a brief overview of the traditional context of hearing loss identification, as well as the origin, personnel, and techniques of UNHS programs, is presented.
Diagnosis of Hearing Loss: The Traditional Path

Universal newborn hearing screening is rapidly becoming standard preventative health practice across North America, with a nation-wide campaign aimed at identification of hearing loss before 3 months of age and early intervention by 6 months of age, occurring in the United States (American Speech-Language Hearing Association, 2004; Joint Committee on Infant Hearing, 2000) and a few national (e.g., Canadian Working Group on Childhood Hearing) and provincial (e.g., Alberta Universal Newborn Hearing Screening Project) initiatives in Canada. Still, a number of urban and rural centers in Canada do not currently implement UNHS. Reasons that UNHS programs do not operate in many centers across Canada may include limited awareness in the community of the benefits of early identification of hearing loss and UNHS (Spivak & Jupiter, 1998) and lack of consensus on the need for universal screening in the community (Gravel & Tocci, 1998). Other factors may be a lack of available resources and the absence of an organizational strategy or action plan. In rural and urban centers that lack the necessary resources, public awareness, community support, and organizational strategies, early identification of permanent, significant hearing loss within 3 months of age through UNHS may not be possible. For children born in these areas, identification of hearing loss may not occur until at or beyond the child’s first year of life (Hadadian, 1995).

Findings from the Canadian Newborn Hearing Screening Survey, which assessed the state of hearing screening programs in Canada, were indicative of only 35 hearing screening programs in Canada in 1998 (Brown et al., 2001). Of the 264,363 infants who were born in Canada over a one-year period, only 25% were
born in hospitals with hearing screening programs. According to the results of the survey, more than half of the hearing screening programs were located in rural areas (51%) with the rest in urban centres (49%). Approximately 54% of all 35 hearing screening programs screened based upon the presence of high-risk factors (e.g., history of hereditary hearing loss, low birthweight, rubella). Screening based on high-risk factors alone, however, may miss approximately 50% of children with hearing loss who are not born with any high-risk factors (National Institutes of Health, 1993). The results of this survey were suggestive of very few centres in Canada that offered newborn hearing screening, and only a small proportion of infants born in Canada who were born in hospitals with hearing screening programs.

Because hearing loss is not a visible disability, it is not immediately identifiable without specialized audiological diagnostic assessment. Parents' experiences of their child's hearing loss identification may be represented as a series of phases including lack of awareness that a hearing loss exists, suspicion that their child may have a hearing loss, confirmation of hearing loss, and habilitation (Magnuson & Hergils, 2000). Parents may not suspect their child has a hearing loss because as an infant the child may be able to respond to communication initiations using other visual and vibratory cues (Hadadian, 1995). A parent may develop suspicions that there is a problem only when a child does not develop speech and language abilities as expected. Suspicions and concerns about the child's hearing status, however, do not immediately become translated into early hearing loss identification. For many parents, their visits to their child's primary care physician may merely result in further delays in hearing loss identification as their concerns
about their child's hearing loss may be pacified with a "wait and see" attitude or simply dismissed (Poon, 1999).

Parents' Reactions to Diagnosis

Identification of a child's hearing loss may precipitate a crisis for parents (Luterman, 1987; Williams & Darbyshire, 1982). The experiences of parents through these phases have been likened to a grieving process with similarities to the experience of losing a loved one. Parents may feel periods of sadness as they mourn for the loss of the expected, "perfect" baby. To further compound the situation, most parents do not have prior experience with or knowledge of hearing loss; therefore, the diagnosis of hearing loss can be a source of great anxiety and confusion (Meadow-Orlans & Sass-Lehrer, 1995). At the time of disclosure of diagnosis of hearing loss, parents may have difficulty understanding the information that is provided to them, particularly information related to the implications of the hearing loss for the child's developmental outcomes and the impact of the hearing loss on themselves as parents (Williams & Darbyshire). Parents may feel shock and be overwhelmed with the diagnosis, which may result in a temporary immobilization of their ability to fully comprehend and respond to the information presented to them (Luterman).

At the same time as parents are experiencing an extraordinary mixture of feelings in response to the diagnosis of their child's hearing loss, they are also expected to play an active and immediate role in the child's habilitation. They are required to become what Leigh (1987) referred to as "instant experts," whereby parents learn about the nature of hearing loss and its variable effects on children,
assistive audiological devices such as hearing aids, educational programs, and communication methods. Furthermore, parents are required to make choices amongst the diverse and often contradictory communication and educational options, learn to interact and advocate for themselves and their child with a diverse array of health care and educational professionals, and, finally, to try and meet the daily needs of their child (Leigh).

The traditional path of hearing loss identification in Canada has been associated with diagnosis occurring at or beyond the child's first year of life, few children diagnosed through newborn hearing screening programs, and parents' feelings of anxiety and confusion following diagnosis. On the other hand, early identification of hearing loss may be associated with numerous and significant benefits to children and their families. Early identification of hearing loss through UNHS programs may also present new and unique challenges to parents and screeners.

The UNHS Context: Screening Origin, Personnel, and Techniques

In Canada, a national universal newborn hearing screening program has not been implemented. Instead, a few city-based (e.g., Victoria, B.C.) and, in some cases, province-based (e.g., Alberta, Ontario) initiatives have begun. Approximately 2000 of the 349,000 children born in Canada in 1997 had some degree of hearing loss (Durieux-Smith et al., 2001). The prevalence of congenital hearing loss has been found to be 1.5 to 6.0 per 1000 births with the lowest incidence associated with higher or more severe degrees of hearing loss and the highest incidence associated
with lower or milder degrees of hearing loss (Parving, 1993; Watkin, Baldwin, & McEnery, 1991; White, Vohr, & Behrens, 1993). Prior to UNHS, the average age of identification of significant hearing loss often exceeded 12 months of age; children with milder degrees of hearing loss were often not identified until they were 5 to 6 years of age (Barsky-Firkser & Sun, 1997).

Until recently, primary attention has been on identifying hearing loss in children in neonatal intensive care units (NICUs) who were born with specific high-risk factors associated with hearing loss, such as a history of hereditary, childhood hearing loss, rubella or other nonbacterial intrauterine fetal infections; ear, nose, or throat defects; low birthweight; or high levels of bilirubin (Joint Committee on Infant Hearing, 1994). Reliance upon screening hearing loss on a high-risk basis only, however, may fail to identify more than 50% of all children born with hearing loss (Mehl & Thomson, 1998). Mehl and Thomson found that 63 of 126 children identified with a congenital hearing loss had no risk factors. Universal newborn hearing screening programs make it possible for children born with and without risk factors to be identified with hearing loss and to receive appropriate, early intervention that may greatly improve the developmental outcomes of children with hearing loss.

Children whose hearing losses were identified before 3 months of age and who subsequently received early intervention services before 6 months of age have been found to have better language development outcomes than children who were identified with hearing loss and received intervention services after 6 months of age (Yoshinaga-Itano et al., 1998). In one study, late identification of hearing loss (i.e., after 6 months of age) was associated with some children scoring lower in measures
of social maturity, social adjustment, and independent living skills than children whose hearing losses were identified early (Yoshinaga-Itano, 1998, as cited in Yoshinaga-Itano, 1999). Improved speech, language, and social-emotional developmental outcomes have been associated with children whose hearing losses have been identified early through UNHS and who also received early intervention.

It should be noted, however, that in a review of the strengths, weaknesses, and gaps in evidence of studies that associated improved developmental outcomes in children with early identification of hearing loss and early intervention, several methodological limitations were identified (Thompson et al., 2001). Thompson et al. suggested that studies included unclear criteria for selecting subjects, lack of comparison between cohort of low-risk newborns identified by screening and those identified without screening, and reliance upon study populations composed of convenience samples. Overall, the quality of evidence that linked early identification and treatment with improved language and communication was rated as fair or poor and the evidence as inconclusive. Regardless of the findings of such evidence-based reviews, however, UNHS continues to be strongly advocated and implemented because of its association with improved developmental outcomes in children with hearing loss.

*Origin of UNHS*

Interest in screening newborns for hearing loss began in the late nineteenth century with the identification of a palpebral reflex and the possibility that behavioural observation or arousal techniques could lead to identification of hearing loss in newborns (Mencher et al., 2001). Reliance upon newborn hearing screening
through behavioural observation or the arousal method continued well into the 1960s. The inconsistencies in behavioural responses in newborns, however, indicated a need to identify other screening procedures. These other techniques such as automated behavioural tests, cardiovascular response audiometry, and acoustic reflex screening were also associated with variable, inconsistent results (Gravel & Tocci, 1998).

Inconsistency and variability in hearing screen results accompanied with a number of reports of problems experienced by local initiatives of newborn hearing screening resulted in the formation of the Joint Committee on Infant Hearing in the United States in 1970. It consisted of representatives from the American Speech and Hearing Association, American Academy of Ophthalmology and Otolaryngology, and the American Academy of Pediatrics (Gravel & Tocci, 1998). It resulted from recognition of the importance of early identification of hearing loss, as well as a need for a unifying body that could guide and direct newborn hearing screening initiatives.

**Techniques and Protocols**

It was the development of auditory brain response (ABR) screening (Galambos, Wilson, & Silva, 1994; Hecox & Galambos, 1974), as well as the evoked otoacoustic emissions (OAE) technique (Kemp, 1978), that enabled a sensitivity and reliability in newborn hearing screening that was not previously possible through behavioural techniques alone. The ABR procedure involves the measurement of the physiological response of the auditory system to stimuli presented to the ear (American Academy of Pediatrics, 1999; Orlando & Prieve, 1998). Three or four electrodes are placed on the scalp of the newborn in order to record
electroencephalogram (EEG) activity in response to stimuli which are "clicks" presented to each ear via headphones. ABR screening may be delivered through a non-automated system, where an audiologist is required to consider the appropriate parameters to present stimuli and measure responses as well as interpret the results. In addition, ABR screening may be delivered through an automated auditory brain response system (i.e., AABR), where the expertise of an audiologist is not required for administering the screen or interpreting the results because stimuli and recording characteristics have been pre-determined and a simple pass-refer outcome is achieved (Orlando & Prieve).

Evoked OAE screening involves the measurement of sounds produced in the cochlea in response to stimuli presented to the ear. After travelling from the cochlea to the middle ear and ear canal, these sounds are measured with a miniature microphone that is in the ear canal. Sounds produced by the cochlea may be linked to the condition and functioning of the outer hair cells of the cochlea (Orlando & Prieve, 1998). Two types of OAE screening include transient evoked OAE (TEOAE) and distortion product OAE (DPOAE) screening. TEOAE screening involves responses at specific frequencies, which are evoked by the presentation of brief acoustic stimuli, such as "clicks" or "bursts" (Orlando & Prieve). DPOAE screening is frequency specific and involves responses that are mathematically related to the stimuli presented, which are two continuous pure tones (Orlando & Prieve).

Both OAE and ABR screening have been used in two-stage screening protocols that included both inpatient screening and outpatient rescreening (e.g., Vohr, Letourneau, & McDermott, 2001). Stage One includes inpatient screening and
may involve one or more screens that use the same or different screening technique (e.g., OAE or AABR). If the newborn does not pass the in-patient screen(s), then Stage Two of screening, which involves an outpatient screen, may be arranged within 1 month of hospital discharge (see Figure 2.1). Outpatient screening by 1 month of age is also recommended for infants who were discharged early and who, therefore, were not involved in in-patient screening as well as for infants who were born outside of the hospital (Joint Committee on Infant Hearing, 2000).

Stage One: In-hospital screening prior to discharge (OAE or AABR) → PASS → NO FURTHER SCREENING

REFER

Stage Two: Outpatient screening before 1 month of age (OAE or AABR) → PASS → NO FURTHER SCREENING

REFER

Diagnostic assessment before 6 months of age

Figure 2.1. Example of a two-stage newborn hearing screening protocol.

The Joint Committee on Infant Hearing (1994, 2000) and professionals comprising the National Institutes of Health (1993) recommended a combination of both OAE and ABR screening techniques in UNHS programs. Combined OAE and
ABR screening has been proposed because of the high percentage of over-referrals to outpatient screening that have been associated with the use of OAE screening alone during the inpatient phase. White et al. (1993), for instance, found that more than 26% of infants who were screened using only TEOAE screening were referred for outpatient re-screening. Of the 81% of this group who returned for the outpatient re-screen, 82% passed the re-screen. This result meant that the majority of infants who screened positive after the TEOAE inpatient screen were later not identified with a hearing loss. That is, the majority of infants who were referred for outpatient re-screening received false-positive results, results that were initially positive at the inpatient screen but later falsified at the outpatient screen.

Protocols used in UNHS may vary from program to program. The design of a UNHS program depends on numerous factors that are specific to each health care system, hospital, and geographic region. These factors include the type of screening tools used, type of hearing loss to screen, length of time mothers stay in hospital, program philosophy, funding, space, and personnel (Orlando & Prieve, 1998). Some programs may use an entirely ABR-based program where inpatient and outpatient screening, as well as diagnostic testing, utilizes ABR. Other programs may rely exclusively upon OAE screening during the inpatient and outpatient phases, but then use ABR during the diagnostic phase.

Other programs may use a combined OAE and AABR approach where both OAE and AABR inpatient screening occurs and is followed by outpatient OAE screening and diagnostic ABR. In Alberta, for example, the UNHS project incorporated a two-stage, two-technology approach including both OAE and AABR
screening. Specifically, Stage One includes inpatient OAE screening. If the result of an initial, in-patient screen is positive, then a second OAE screen occurs prior to hospital discharge. If this second screen is also positive, then an additional inpatient or outpatient AABR screening is arranged. If results from Stage Two are also positive, then further audiometric evaluation is arranged.

Screening Personnel

Just as techniques and protocols may vary between UNHS programs, so may the number and types of personnel involved in the screening program. Primary personnel may include a director, an audiology coordinator, and screening personnel. A director may act as a primary contact person and liaison for the UNHS program with the community, hospital physicians, and hospital administration (Orlando & Sokol, 1998). The director may be involved in the development of all procedures related to the UNHS program and, therefore, be very knowledgeable about the characteristics of the program. In addition, the director may be responsible for ensuring that the screening program is consistent with national, state or provincial, and hospital regulations (Orlando & Sokol). The audiology coordinator would be responsible for the UNHS program on a daily basis. The coordinator would have background and experience in the screening protocols used as well as, more generally, pediatric audiological assessment and habilitation.

Screening personnel who screen infants and handle equipment may include nurses or nurse practitioners, technicians, volunteers, graduate students in preprofessional programs, and, more infrequently, audiologists (Orlando & Sokol, 1998). Screeners selected for a UNHS program would vary depending upon the
availability of funding and types of personnel. For example, although audiologists may be highly trained to perform the screen, interpret the results, and communicate aspects of screening and screen results to parents, they may, in fact, earn a salary that is not feasible for UNHS programs with budgetary constraints. Also, audiologists may not be the most appropriate screeners because they may tend to treat each screen as an opportunity for in-depth audiological evaluation or diagnostic assessment rather than as a screening procedure with a simple pass or refer outcome (D. Brown, personal communication, November 24, 2004). Consequently, the involvement of volunteers and paid technicians as screeners may be much more viable options in these programs (Orlando & Sokol).

The preceding overview of the history, personnel, and protocols related to UNHS programs indicates that UNHS programs are firmly rooted in a multidisciplinary, health care context. Screening programs are typically hospital-based and involve a diverse group of health care professionals including, but not limited to, audiologists, otolaryngologists, nurses, technicians, and pediatricians. The interactions and personal cultures related to the disclosure session involving parents and screeners may be strongly influenced by the collective culture of the medical or health care context. Parents' interpretations of the content and process of disclosure sessions may be influenced by their role within the health care setting. Similarly, the way in which screeners interpret and perceive the roles of themselves and of parents may be shaped in part by the influence of the medical or health care context. The remainder of this chapter will discuss the literature related to the experiences of parents and screeners.
Parents' Experiences of UNHS Programs

A primary concern pertaining to UNHS is that it may needlessly compound parents' feelings of anxiety during the postpartum period and may have adverse effects on parents' psychological and emotional well-being (Bess & Paradise, 1994; Marteau & Croyle, 1998; Paradise, 1999). For these reasons, much empirical attention has been focused upon parents' emotional reactions and, particularly, their feelings of anxiety at each stage of the screening process. Parents' emotional reactions to screening, however, represent only one aspect of parents' experiences. In addition to parents' emotional outcomes to screening, parents' perspectives about screening are also significant aspects of parents' experiences.

Parents' experiences of UNHS may be categorized into their experiences related to a) the screen result that is disclosed to them, positive or negative; and b) the screening process itself. In a disclosure session of a screen result, the nature of the screen result, that is, whether it is positive or negative, reflects the content of the disclosure session. The way in which the screen result is delivered or, in other words, the manner in which the result has been communicated during the disclosure session, refers to the process of the disclosure session. Parents' responses to the content of a UNHS disclosure session may not be consistent with parents' responses to the process of a disclosure session. For example, a parent may report satisfaction with the way in which a screener communicates the screen result, but still report feelings of sadness and frustration in response to their child's positive screen result. Parents' responses to both the content and process of UNHS disclosure sessions have been investigated in previous research.
Parents' Responses to the Content of a Disclosure Session

Parents' reactions to newborn screening have been described as intense, emotional responses to a positive result, which means that the child has been referred and will be sent for further audiological assessment. Intense emotional reactions have also been associated with the disclosure of a result from an initial screen that was later falsified (i.e., false-positives or false-negatives). Such emotional responses have been described as psychic crisis for parents participating in newborn screening programs for congenital hypothyroidism (Bodegard, Fyro, & Larsson, 1983) or anxiety, depression, and worry among parents involved in a newborn screening program that screened for a variety of metabolic disorders (Sorenson, Levy, Mangione, & Sepe, 1984). Parents in UNHS programs who have received a positive hearing screen result after an initial stage of screening have been found to experience intense emotional reactions such as anger, fear, frustration, confusion, sadness (Abdala de Uzzcategui & Yoshinaga-Itano, 1997), and acute or chronic anxiety (Clemens et al., 2000; Magnuson & Hergils, 1999; Vohr et al., 2001; Watkin, Baldwin, Dixon, & Beckman, 1998). These emotional reactions may be attributed to parents' understanding of the meaning, perceived threat, and validity of the screen result.

Understanding of the meaning of a screen result. It is reasonable to assume that parents enter into UNHS programs with the belief and hope that their babies are completely healthy. As a result, parents involved in universal newborn screening programs may begin with low levels of anxiety prior to screening because they expect that their baby will pass the hearing screen and receive a negative screen
result, which indicates that the child does not appear to have a hearing loss. After an initial screen indicating a positive result or, in other words, a “refer” on the hearing screen, parents’ feelings of anxiety may increase owing to the possibility or potential of a health problem in their infant. Parents’ beliefs that their children may have a hearing loss as well as their intense emotional reactions following the initial stage of hearing screening may be factors influencing parents to drop out of screening programs prior to confirmation of the infant’s hearing status.

In one study (Abdala de Uzcategui & Yoshinaga-Itano, 1997) approximately 25% of parents involved in a hospital-based UNHS program did not return with their infants for secondary screening. Intense emotional reactions to their understandings about the meaning of the positive result may have been one factor influencing the rate of non-returns. Eleven percent of parents who did not return for further screening in this study reported feeling anger and shock. These feelings may have resulted from parents’ interpretations of a positive screen result as an indicator of hearing loss in their children. That is, parents may have understood a positive result to mean that their child had a hearing loss and, as a result, they responded with feelings of anger and shock. Parents’ understandings about the meaning of a screen result and their emotional reactions associated with these understandings have not been explored in previous research and, therefore, require further investigation.

Parents’ understandings about the meaning of screen results may be associated with the labels that they have linked to the condition (Senior, Marteau, & Peters, 1999). According to the Self-Regulation Model of Illness Perceptions, the way in which people think about a health condition or disability is determined by the
labels the conditions or disabilities are given (Senior et al., 1999). For example, a person may believe that a condition with a label of “mental retardation” carries different and much more overwhelming connotations than a label of “slow” (Abrams & Goodman, 1998). Labels may stem from parents’ understandings about the nature, controllability, or cause of a condition and may also reflect prevalent societal notions associated with the condition. These labels may become particularly significant in interactions between people who have different views of a condition and, therefore, may use different labels when referring to the condition.

In UNHS programs, parents may discuss the screening process and results with a variety of people including their families, friends, and co-workers, as well as screeners involved in the newborn screening program. In a disclosure session between a parent and a screener, for example, each person may have a different way of conceptualizing and labelling the screening process as well as the condition being screened. For example, after diagnostic testing, an audiologist may inform parents about their child’s hearing loss and use the word “deaf” to refer to the degree of residual hearing. In contrast, a parent who is unfamiliar with the varying degrees of hearing loss may hear the word “deaf” and believe that it means that the child cannot hear anything at all (Martin, 1994). Therefore, conflicts or discrepancies may exist between the intended meaning of a word used by one person, such as the audiologist, and the meaning interpreted by another person, such as the parent.

The labels and concepts that are communicated verbally during the screening process may influence the way in which each person interprets the meaning of the screen result. In this way, different people may interpret a single screen result in a
number of different ways. For example, if parents are told that their child received a “refer” on an initial screen in a UNHS program, do the parents believe that the screen result indicates that the child likely possesses a hearing loss, likely does not possess a hearing loss, or that the screen result is simply inconclusive? If the parents receive another “refer” on a secondary, outpatient screen, will they then interpret the meaning of this screen result in the same way as the result from the initial screen? Further investigation is needed related to various ways that screen results are communicated and, particularly, the words or labels that are used to describe them. The use of labels may be particularly significant in UNHS programs because they may vary in their protocols for communication of screen results to parents, with some programs opting for words such as “pass” and “refer,” and others incorporating terms such as “TEOAE recorded” or “TEOAE not recorded” (Watkin et al., 1998).

Uncertainty about the validity of the screen result. Watkin et al. (1998) found that a reason that some parents did not return with their infants for re-screening was that they believed that their children did not have a hearing loss and, therefore, did not require further screening. This suggests that some parents may drop out of UNHS programs after the initial screen because they doubt the validity of screen results. Parents may not believe that their children have a hearing loss. Determining how parents come to understand the validity of screen results, then, may be an important factor contributing to return rates for re-screening. Unfortunately, none of the research reviewed involved in-depth investigation of how parents come to understand the validity of screen results.
Feelings of uncertainty regarding the validity of screen results may be particularly prevalent and long-lasting for parents who have received false screen results. The incidence of false-positives in newborn screening programs, which are positive results acquired through the initial stage(s) of screening that have been later falsified through follow-up screening, have been associated with detrimental effects on parents' emotional well-being and the parent-child relationship (Clayton, 1992; Kwon & Farrell, 2000). Although many parents express relief when a negative screen result is confirmed through follow-up screening, as well as confidence in the health of their baby, some parents also continue to feel anxiety and uncertainty with regard to the accuracy of the screen results and, moreover, the child's health status.

Bodegard et al. (1983) suggested that false-positive results from the newborn screening program for congenital hypothyroidism trigger psychic crisis development in many parents that is associated with the ambiguity of the screen results, uncertainty over the child's health status, and threat of a problem in their child. Most parents, according to Bodegard et al., positively solve this psychic crisis by eventually becoming more confident in their child's health status and less preoccupied with their child's potential health problems. Some parents, though, may continue to feel insecure about the health of the baby. In one study (Bodegard et al.), for instance, 20% of parents who received a false-positive result expressed uncertainty and intense emotional reactions related to their child's health status in a period 6 to 12 months following the finding of a negative diagnostic test result. Similarly, findings from other studies involving parents' reactions to false-positive results in newborn screening programs for various congenital metabolic conditions
(Sorenson et al., 1984) and conditions such as cystic fibrosis (Tluczek et al., 1992), have indicated that parents' feelings of uncertainty and concern regarding their child's health status persisted even after the finding of a negative diagnostic test result. Parents who receive false-positive results, then, may continue to question the validity of the screen results well after they have received confirmation of their child's hearing status. Therefore, parents' certainty about the validity of the screen results may have long-lasting repercussions for the emotional well-being of parents and their children.

Perceived threat of the screen result. Parents' emotional reactions and behaviours following disclosure of the screen result may be related to how they understand the threat of the condition to the child's, the family's, or personal well-being. In newborn screening programs a positive screen result, for instance, may be understood by parents as a stressful event that acts as a serious threat to expectations and perceptions related to a child's well-being. Parents may not experience a threat of the loss of their child, but a threat to the loss of the healthy child they had initially expected prior to screening (Tluczek et al., 1992). Importantly, these perceptions of threat may impact parents' emotional reactions and their subsequent perceptions of and behaviours with their children. How parents begin to understand the degree of threat associated with the screen result, then, may have implications for not only each parent's subsequent emotional adjustment but also for the development of the parent-child relationship.

Findings from research related to parents' experiences in other types of newborn screening programs, such as screening programs for phenylketonuria,
congenital hypothyroidism, and cystic fibrosis, for example, were that some parents reported becoming more watchful of symptoms or signs of a condition or illness in their children (Bodegard et al., 1983). Parents who participated in UNHS programs reported that the focus placed upon early identification of infant hearing status through newborn hearing screening contributed to parents' greater attentiveness to their children's speech, language, and hearing development (Abdala de Uzzcategui & Yoshinaga-Itano, 1997).

In studies involving newborn screening programs for congenital hypothyroidism (Bodegard et al., 1983) and cystic fibrosis (Tluczek et al., 1992), parents have reported becoming more tender or affectionate with their children, with some parents even reporting exaggerated attachment behaviours, following screening. Not only may some parents appear to become more watchful but, interestingly, in some studies, such as one involving cholesterol screening of children at high risk, parents have also reported more behavioural problems in their children (Rosenberg, Lamping, Joseph, Pless, & Fanco, 1997). Parents' altered behaviours, such as increased watchfulness and tenderness toward their children, as well as increased likelihood for parents to report child behavioural problems, were attributed to changes in parents' perceptions of their children after learning about a positive screening result. That is, a positive screening result may have influenced parents to view their infants as more vulnerable and, thus, in need of more care, nurturing, and attention (Rosenberg et al., 1997; Tluczek et al., 1992).

The way in which parents understand the content of a disclosure session may center around their understandings about the validity and accuracy of the screen
result, how they assign meaning to the perceived threat of the screen result and, in relation, how they come to understand the meaning of a screen result. These propositions must be viewed cautiously, however, as much of the literature reviewed was related to parents' understanding of the meaning of screen results in newborn screening programs of conditions other than hearing loss. A paucity of research exists related to how parents make sense of the content of a disclosure session in UNHS programs. In relation, much more empirical attention has been placed upon parents' responses to the process of a disclosure session, which is the focus of the next section of this chapter.

Parents' Responses to the Process of a Disclosure Session

A number of studies have investigated parents' satisfaction with various aspects of the screening process. The majority of parents appeared to be satisfied with the process of UNHS screening, although a number of parents, particularly those parents whose infants required repeat screening, reported dissatisfaction with some aspects of UNHS. No previous study, however, has focussed specifically upon a single disclosure session. Most studies have asked parents to report upon their attitudes about what and how information was shared with them prior to, during, and following each stage of screening. Specific details are needed about what parents think about the process of their infant actually being screened (e.g., with parent present, child taken away, baby sleeping, waiting period for the results, the technique used) as well as what parents think about the way in which information about the screen was shared with them (e.g., information presented clearly, no jargon, empathetic manner of professional).
Abdala de Uzzcategui and Yoshinaga-Itano (1997) examined parents' reactions following the initial hearing screen of a UNHS program at two hospitals in Colorado. The researchers distributed surveys related to parents' experiences associated with their infant's hearing screening and categorized parents' responses as negative (e.g., confused, angry, shocked, guilty, afraid) or positive reactions (e.g., informed, calm, comforted, patient). Parents generally reported positive emotions with respect to their interactions with screeners. Parents reported that they felt informed, comforted, encouraged, and satisfied. Unfortunately, the reasons parents felt informed, comforted, encouraged, and satisfied were not reported in this study. Did parents feel informed because they received pamphlets about UNHS? Did they feel informed because a screener shared information with them about the screening process and screen result? What aspects of the program were comforting to parents? What aspects of the UNHS program made them feel encouraged and satisfied?

Another study (Watkin et al., 1998) also involved self-report data pertaining to parents' experiences of UNHS, but the researchers provided more specific details about the sources of parents' attitudes and levels of satisfaction than Abdala de Uzzcategui and Yoshinaga-Itano (1997). Watkin et al. found that the majority of the parents surveyed felt satisfied with professionals' explanation of the screen. Some parents, however, felt that professionals' explanations were inadequate, screening occurred too soon after childbirth, screening made them feel anxious, and were concerned that the baby was taken away during the screening period.
Parents, then, differed in their attitudes and level of satisfaction with the UNHS process. Parents had different reactions to the explanations and emotional support provided by screeners, the timing of screening, and screening protocols. Why are parents who are experiencing the same events in UNHS programs reacting in such different ways? The protocols and guidelines that have been developed and recommended in the National Institutes of Health (1993) and by the Joint Committee on Infant Hearing (1994) are predicated on the assumption that following specific guidelines and using certain techniques and procedures in combination will help to prevent unnecessary emotional distress and anxiety that may be experienced during the screening process. That is, the guidelines are based upon assumptions of homogeneity and uniformity in parents' responses to screening, rather than heterogeneity and diversity. It should also be noted, however, that although these guidelines may have an overarching influence on the development of the screening program, each screening program is responsible for the training of its screeners. The specific ways that each screening program trains its screeners, then, may have a more direct influence on how screeners share the screen results with parents than the guidelines themselves, which do not directly address the training of screeners.

No previous investigation has explored the dynamic and multiply-influenced development of parents' responses to UNHS. By framing how parents understand screen results as a constructive process where individual differences in parental response may be manifestations of diversity in co-constructive exchanges between parents and screeners, it is possible to develop a more thorough understanding of parents' responses to UNHS.
Responses to repeat screening. Generally, findings from previous research (Abdala de Uzzcategui & Yoshinaga-Itano, 1997; Barringer & Mauk, 1997; Clemens et al., 2000; Hergils & Hergils, 2000; Stuart, Moretz, & Yang, 2000; Vohr et al., 2001; Magnuson & Hergils, 1999; Watkin et al., 1998; Weichbold & Welzl-Mueller, 2001) related to parents' experiences in UNHS programs indicated that some parents did experience negative reactions to their participation in UNHS programs and that these negative reactions were particularly prevalent during the period of re-screening after an initial, positive screen result had been found. What aspects of the re-screen process in UNHS are emotionally distressing to parents? Previous researchers have not addressed this question, and, instead, have focused upon parents' emotional reactions or level of satisfaction following re-screening.

After conducting in-depth interviews with 49 parents about their feelings, thoughts, and opinions about otoacoustic emissions (OAE) screening 8 to 12 months post-screening, Magnuson and Hergils (1999) found that the majority of parents expressed a positive attitude toward UNHS. However, they did note that 10 parents whose children required more than one re-screen reported feelings of anxiety. It is possible that feelings of anxiety may mobilize some parents through the screening process, because it may encourage parents to continue with further screening or testing until a conclusive result is obtained. Without some anxiety, parents may not feel compelled to return with their infant for further screening or testing. The majority of participants in this investigation (i.e., the parents of 22 of 26 children) were parents of children who were confirmed not to have a hearing loss. Similarly, findings from another study (Hergils & Hergils, 2000) involving parents of 83 children
who participated in a two-stage, in-hospital transient evoked otoacoustic emissions (TEOAE) screen indicated that the majority of parents (i.e., parents of 76 children) were satisfied with their experiences during screening and expressed a positive attitude about screening. Some parents (i.e., parents of 10 children), particularly those parents whose children required re-screening (i.e., parents of 6 children), reported feeling anxious or uneasy owing to their involvement in the screening program. This finding is suggestive that repeat screening may be associated with parents’ reports of anxiety about screening. It should be noted, however, that the majority of participants in this study were parents of infants who did not require repeat screening and were not diagnosed with a hearing loss. The level of satisfaction indicated in this study may predominately represent the experiences of parents of infants who did not screen positive for a hearing loss and who required only a single hearing screen.

A limited number of empirical investigations have been conducted related to the process of disclosure of screen results. Further research is clearly needed, as a number of limitations in this small group of studies were identified. For example, Abdala de Uzzcatequi and Yoshinaga-Itano and Watkin et al. (1998) did not identify the specific procedures that professionals used in attempting to support parents. Detailed, in-depth analysis of the nature of interaction and communication exchange between parents and screeners, as well as parents’ perceptions about the process of a disclosure session, would promote greater understanding of the disclosure process and parents’ views of unhelpful and helpful support than currently exists.
Data in the research reviewed were collected primarily through questionnaires or surveys (Abdala de Uzcategui & Yoshinaga-Itano, 1997; Barringer & Mauk, 1997; Clemens et al., 2000; Hergils & Hergils, 2000; Vohr et al., 2001; Watkin et al., 1998; Weichbold & Welzl-Mueller, 2001), with a few studies incorporating specific self-report measures (Stuart et al., 2000), such as the Parenting Stress Index (PSI; Abidin, 1995) and the Spielberger State-Trait Anxiety Inventory (STAI; Spielberger, 1983 in Watkin et al., 1998), and open-ended interviews (Magnuson & Hergils, 1999). None of the studies reviewed involved participant observation. Triangulation of data collection strategies would provide a more comprehensive picture of parents’ responses to screening. These limitations could be addressed by incorporating data collection methods that include participant observation, as well as parent and screener interviews. In contrast to questionnaires and surveys where participants’ responses are often restricted to the words, labels, and response options provided by the researchers, use of in-depth interviews would allow parents and screeners to express their perspectives about the disclosure session in their own words.

In summary, a review of the relevant empirical literature has indicated that parents’ experiences of the disclosure of screen results have been investigated primarily with regard to their levels of anxiety or the presence of positive or negative attitudes and emotions in response to screening, rather than concerning the ways in which they understand the disclosure sessions themselves. Findings from most of the studies reviewed were related to parents’ emotional outcomes to screening rather than the actual process of disclosing screen results and parents’ experiences of this process.
Without examining parents' experiences related to the content and process of a disclosure session, it is not possible to understand the factors influencing parents' emotional reactions. Is the parent responding to the way in which a screener disclosed the screen result (i.e., the process of disclosure), or is the parent responding to the nature of the screen result itself (i.e., the content of disclosure)? The review of the relevant literature has indicated that parents' perceptions of the process of a disclosure session may be distinctive from parents' perceptions of the content of a disclosure session. Many parents reported satisfaction and a positive attitude toward the screening procedures and the screener and, yet, at the same time, reported feelings of uncertainty and anxiety about the nature of the screen result. Through investigation of the nature and source of parents' understandings, it is possible to identify specific practical recommendations that are related to screening practices in UNHS programs. The experiences of screeners within the UNHS context are discussed in the next section.

**Screeners' Experiences in UNHS Programs**

In comparison to parents, screening professionals' experiences in UNHS programs have received limited empirical attention. Much has been stated about what screeners should be doing in UNHS programs with respect to technology, protocols, and also in terms of their interactions with parents, but there has been limited emphasis upon what they are doing. Many researchers (Abdala de Uzzcatequi & Yoshinaga-Itano, 1997; Magnuson & Hergils, 1999; Watkin et al., 1998) described the importance of screeners and parents developing a positive
relationship with one another. Part of developing this relationship involved improving the counselling skills and communication skills of screeners. Abdala de Uzzcatequi and Yoshinaga-Itano, for example, suggested the need to train staff, including volunteers, nurses, and screening technicians, in ways of delivering information to parents and comforting them during the screening process. The question remains, however, as to how screeners in UNHS programs are currently delivering information to parents.

The ways that screeners discuss screen results with parents has not been the focus of previous investigation related to UNHS. Limited research is also available that is related to screeners’ experiences of disclosing screen results to parents. Screeners in UNHS programs may include screening technicians, nurses, volunteers, or, more infrequently, audiologists. Audiologists are involved in the assessment of auditory function as well as amplification and (re)habilitation of children and adults with hearing loss. For the most part, they are not involved in disclosing screen results to parents in UNHS programs. Audiologists, however, are involved in diagnostic activities where they must not only diagnose a hearing loss in newborns, but also relay screen results to parents. Audiologists’ experiences in delivering screen results about hearing status were viewed as valuable and relevant sources of information pertaining to communication of results that were specifically about hearing. Therefore, the limited literature available that was relevant to audiologists’ perspectives in delivering screen results to parents was reviewed. However, because limited literature was found that was directly related to screeners’ experiences in UNHS programs, literature related more generally to screeners’
experiences, and particularly physicians' experiences within the medical context, in delivering difficult or emotionally-charged information to parents was also reviewed. Screeners' experiences with respect to the content and process of disclosure of screen results are the focus of the next section of this chapter.

**Screeners' Responses to the Content of a Disclosure Session**

Limited research has been conducted related to screeners' perceptions of the content of a disclosure session in UNHS programs. Like parents in UNHS programs, screeners also had certain ways of understanding the meaning and validity of screen results. In contrast to parents' understandings, however, screeners' understandings were linked to the degree of ambiguity and threat posed by a screen result and were centered around their roles within the UNHS context as screeners.

**Meaning of a result.** For screeners, the content of a disclosure session may primarily pertain to the audiometric details of the screen result. Their understandings of screen results may be reflective of their knowledge and role in interpreting the measures. Some screening professionals may play an active role in interpretation of screen results, and others may not be involved in interpretation of the screen results, but instead are involved in noting if the screen result was a “pass” or “refer.” Screening professionals’ interpretations would also greatly depend on the type of screening used to assess the infant. In UNHS programs using OAE screening, for example, an audiologist may use the frequencies and the evoked OAE measurements to interpret the screen result. A single label such as “pass” or “refer” may reflect a series of waveforms, values, and frequencies. In UNHS programs
using AABR screening, the screener may only have access to a "pass" or "refer" result. In other words, the screen result itself may represent for screeners the outcome of measurements recorded from a specific audiological instrument, such as an AABR or OAE device. It has been suggested, although not widely empirically documented, that some health care professionals may focus more upon the transfer of technical, audiometric aspects of test results when conveying assessment or diagnostic information to families and less upon the emotional impact of the result on families (Martin, 1994). In contrast, then, to parents and their understandings about the content of a disclosure session that may be related to the meaning of the screen result as a factor influencing familial well-being, screeners' understandings of the screen results may be centered around their knowledge about the characteristics of the result, such as whether it is a "pass" or "refer" result.

Screeners may also perceive the screen result as a single component in a process that will involve further hearing screens. In this way, the screener may believe the "pass" or "refer" indicated from the screen represents a possible indicator rather than an end result. It may also signal to the screener the need to prepare the family for the next step in the screening process, such as referral for additional screening and provision of the screen information to the child's pediatrician or primary care physician. The ways in which screeners understand screen results appear to be closely aligned to their professional roles within UNHS programs. Audiometric results may represent a routine aspect of the day-to-day role of being a screener (Martin, 1994).
Interpretation of the validity of the result. In a previous section related to parents and their experiences within UNHS programs, parents were found to have beliefs pertaining to the validity of the screen result. Similarly, screeners may develop meanings related to the accuracy of the screen result. Unlike parents, though, screeners' understandings of the accuracy of the screen results may be based upon their knowledge and expertise related to pediatric audiological assessment. A “pass,” for instance, obtained from OAE screening, may be associated with beliefs about whether the result may be a “true positive,” which is when a positive result is obtained from a child who actually possesses a hearing loss, or a “false-positive,” which is when a positive result is obtained from a child with normal hearing. How the validity of the result is understood may be associated with technical aspects of the screening process which in OAE screening include a poorly fitted probe, a partially collapsed ear canal, or excessive ambient or infant noise and which in ABR screening include poor electrode impedance, improperly placed transducer, collapsed ear canal, or excessive infant, ambient, or electrical noise (Orlando & Sokol, 1998).

Professionals' Responses to the Process of a Disclosure Session

Screeners' responses to the process of a disclosure session may be rooted in the professionals' understandings about being the bearer of news that may be difficult for parents to hear. Experiences of disclosing screen results to parents may also be affected by their beliefs about maintaining a professional role throughout the disclosure session, as well as their beliefs about the role of parents during disclosure of a screen result.
Being the bearer of sensitive information. Some professionals in the health care context, such as physicians, rehabilitation specialists, and nurses, may sometimes be required to deliver sensitive information to patients and their families that they anticipate will be difficult for them to hear. Health care professionals may feel strong emotions, such as anxiety, sadness, frustration, and concern, in response to communicating potentially distressing and painful news to patients and their families (Halpern, 1984). Findings from one study (Hasnat & Graves, 2000) investigating the disclosure practices of 26 pediatricians indicated that approximately half of the pediatricians felt sad or upset during the disclosure of a developmental disability to parents. Some pediatricians reported that these feelings were associated with thoughts of their own children at the time. Health care professionals may be in a difficult and emotionally taxing situation where they must deliver information that they believe may cause parents to feel not only sadness and pain, but also anger, frustration, and possibly blame or hostility that may be directed towards the health care professionals as the messengers and source of bad news (Halpern, 1984; Ptacek, Fries, Eberhardt, & Ptacek, 1999; Ptacek, Ptacek, & Ellison, 2001).

The professionals may also feel helpless in that they must deliver news of a potential problem and yet not be able to provide definitive answers to the patients and their families with regard to a treatment or remedy. This feeling of helplessness may be particularly difficult for health care professionals who are accustomed to being able to heal and treat their patients. Health care professionals, then, may need to negotiate between conflicting feelings associated with being the bearer of bad
news that may cause pain for another, being a potential object of hostility, and being unable to remedy or treat a particular illness or disability. According to Abrams and Goodman (1998), health care professionals' conflicting feelings about disclosure may reflect incompatible values where the professional wants to be direct and honest with parents, but also wishes to prevent parents from experiencing emotional distress or harm. The professionals want to be truthful, yet also convey a sense of hope to parents. For example, in one study (Bogden, Brown, & Foster, 1982) health care professionals in neonatal units relied upon two themes when communicating with parents, namely “you can never really tell” and “be honest but not cruel.” The neonatal staff adopted these themes in their interactions with parents because they wanted to convey hope to parents, and they also did not want to communicate news that was too pessimistic or negative.

Views about parents' and professionals' roles. Communicating screen results to parents necessitates that screeners possess skills in providing both informational and emotional support to parents (Kricos, 1993; Mendel, 1997). Screeners must be able to provide informational support by answering parents' general questions about pediatric assessment and also by explaining to parents the goals of UNHS, the process of screening, the instrumentation used in screening, and the meaning of the screen results. At the same time, screeners must know how to support parents who feel confused, frustrated, and angry about screening or the screen results. In this way, the screener may play a dual role, one of primary informant or information provider on the one hand, and one of counselor who is able to provide emotional support to parents when needed on the other. Screeners may vary in the extent to
which their training involved balanced focus upon the provision of both emotional and informational support to parents. Some pre-professional training programs in audiology, for example, emphasize the provision of informational support or content counselling while providing only limited training opportunities in emotional support or personal-adjustment counselling (Kricos, 1993; Stone & Olswang, 1989). If training of screeners in UNHS programs involves a similar trend, then a lack of training in emotional counselling may result in screeners who feel awkward, uncomfortable, and unprepared to deliver screen results. Screeners without adequate skills or training in meeting the emotional needs of parents may retreat to their technically-based approaches with parents, which may leave parents feeling as if their feelings and concerns were not heard or acknowledged (Cherow, 1991).

For screeners, the roles as both “helper” and “professional” may dictate the use of limited emotional expression at the time of the disclosure session. Expressing emotions at the time of disclosure may be in conflict with a sense of professional responsibility to remain detached and unemotional (Halpern, 1984; Hasnat & Graves, 2000). Screeners may focus upon more technical, factual information and limit the amount of time for the disclosure session to minimize opportunities to discuss topics that the screener perceives as emotionally distressing both to the patients and to themselves (Halpern).

As stated previously, parents and screeners may not perceive that they have equal status in their relationship. Screeners may view themselves as specialists and service providers with knowledge and skills that parents depend upon for guidance and support. At the same time, screeners may assess parents and then, on the
basis of these assessments, decide upon their approaches to talking with parents during disclosure sessions. Bogden et al. (1982) found that staff in a neonatal unit for infants with various life-threatening and high risk conditions (e.g., prematurity, blindness, brain damage, chronic lung conditions) made judgements about how to talk to parents based upon their assessment and categorization of parents as “good parents,” “not so good parents,” and “troublemakers.” Poor communication exchanges with parents were often attributed to the type of parents involved in the interaction, rather than to aspects of their own approach.

Interactions between Parents and Screeners

A review of the literature related to parents’ and screeners’ experiences within UNHS programs has revealed that parents and screeners had developed understandings about the process and content of disclosure in UNHS programs that were qualitatively different from one another. These understandings and the ways in which they are manifested in the unspoken roles, rules, and boundaries displayed during an interactive exchange may not only be different from one another, but also completely incompatible with one another. Through communication and interaction during the disclosure session, however, it appears that these understandings may be communicated and negotiated to varying degrees, depending upon parents’ and screeners’ openness, ability, and desire to share and negotiate during the communicative exchange.
Roles, Rules, and Boundaries in the Parent-Screener Relationship

The structure of the UNHS program is shaped within a broader health care context. Parents in a UNHS program are consumers of a health care service where screeners and consumers are embedded in a context and institution with policies and spoken and unspoken codes of conduct and rules of behaviour. These codes and rules of conduct may influence screeners' perceptions of their roles and behaviours in UNHS programs. For example, screeners may view parents as consumers of health care services, as one aspect of their roles within UNHS programs. On the other hand, parents, in their roles as consumers of health care services, may view screeners as content specialists and service providers.

As stated previously, power relations within a relationship may exert their influence on individual interpretations of an event or situation. Screeners and parents may not perceive one another as equal partners in interaction. Parents may rely upon screeners as sources of specific knowledge and expertise, whereas screeners may view themselves as service providers and specialists who possess specific knowledge and skills that they believe parents do not possess. This imbalance in power may prevent some parents from feeling comfortable in openly discussing their feelings and concerns with screeners. Screeners, too, may take on the expert role in an interaction, thus exploiting the power imbalance in the relationship and further preventing genuine and honest communication exchanges (Beazley & Moore, 1995, p. 22).

Stone and Olswang (1989) discussed the boundaries and rules of relationships which act to define the role of each participant in an interaction. Each
participant in a relationship may develop expectations about each person’s
behaviours and the rules of the relationship. If a person behaves in a manner that is
contrary to the other’s expectations or that violates the unspoken boundaries or rules
of the relationship, then the other person may have an emotional reaction such as
anxiety, confusion, or anger that may thwart “genuine and spontaneous exchange”
(Stone & Olswang, p. 28).

Parents and screeners may have different needs, expectations, and
responses during the disclosure of a child’s condition that may not necessarily be
complementary or compatible with one another (English, Mendel, Rojeski, & Hornak,
1999; Halpern, 1984). Such an incompatibility or mismatch in communication styles
and intentions may result in communication breakdowns and, moreover, feelings
that neither party has been heard or understood. English et al. made a distinction
between a “feeling mind” and a “thinking mind.” For example, a parent of a child who
has received a diagnosis of hearing loss may express with a “feeling mind” to the
audiologist feelings of sadness and confusion. Instead of responding and
acknowledging the parent’s expression of emotions, the audiologist responds to the
mother’s “thinking mind” by providing the parent reassurances and information
related to the outlook for educational success given the degree of the child’s hearing
loss. This mismatch, according to English et al., may result in the parent feeling
unheard and not understood.

Negotiating and Bargaining through Language

Stuart et al. (2000) suggested that parents’ levels of stress experienced
during screening may be attributed in part to the choice and use of language during
the period of disclosure of the result. Some terms such as "need for further screening" may be less anxiety-inducing for parents than "fail" or "did not pass." The meanings that parents assign to a result are very much dependent upon themselves (e.g., personal background, personality, experience with hearing loss) and also, importantly, upon the manner in which the screener frames the meaning of the statements. For screeners, there appears to be a delicate balance that is needed when communicating the meaning of screen results to parents. Screeners must communicate in ways that indicate not only the importance of hearing screening and follow-up assessment, but also in ways that do not downgrade or upgrade to parents that the possibility of a hearing loss exists (Watkin et al., 1998).

Unfortunately, in-depth examination of the language used in UNHS sessions where screen results were disclosed, as well as parents' perceptions of specific aspects of the disclosure session, have not been investigated in previous research. Very little is known about this process of disclosure of hearing screen results to parents. Recommendations have been made regarding what screeners should be doing, but there exists limited empirical evidence pertaining to communicative interactions that are occurring during disclosure sessions.

Several researchers (e.g., Abrams & Goodman, 1998; Bogden et al., 1982; Hasnat & Graves, 2000; McDonald, Carson, Palmer, & Slay, 1982; Svarstad & Lipton, 1977) have investigated disclosure of a disability or chronic illness to parents. In a sociolinguistic analysis of 10 disclosure sessions between professionals and parents of a child diagnosed with a mental disability, the researchers (Abrams & Goodman, 1998) found that parents and professionals engaged in a bargaining
process of claims and counterclaims where the meaning of the condition, meaning of labels, and levels of optimism and pessimism were negotiated. For instance, parents would often reverse the direction of optimism or pessimism that was indicated in the professional's previous statement. If professionals were too vague or used euphemisms to soften the disclosure, then parents reacted with statements that aimed to elicit a more direct, honest response from the professional.

Parents' understandings about the condition were dependent upon their communicative exchanges during the disclosure session. Parents attempted to balance what professionals were saying, the way they were saying it, their own personal meanings of the condition that existed prior to the disclosure session, and the meanings that were being communicated and shared during the disclosure session (Abrams & Goodman, 1998). As parents were balancing their meanings about the condition, professionals were engaged in a process of adjustment, accommodation, and modulation. Professionals attempted to adjust their own behaviours so that they were more consistent with parents' perspectives. This adjustment involved modifying the labels and expression of optimism and pessimism to better match the perceived position of the parents.

Summary of the Literature and Research Questions

Parents may experience negative emotional reactions such as anger, frustration, and confusion to UNHS, particularly after an initial, positive, screen result has been disclosed (Abdala de Uzzcatequi & Yoshinaga-Itano, 1997). These reactions may be attributed to a) how parents make sense of the screen results; b)
how screeners describe screen results to parents; and c) the nature of parent-
 screener exchanges during the disclosure of a screen result.

The nature of parent-professional interactions and the way in which each party perceives the interaction and one another may have effects that extend far beyond the time and place of a single point of interaction. Parents may continue to dwell upon, remember, reflect, and relive what was said during an exchange with a screener well after the disclosure session (Halpern, 1984). Parents’ interactions with screeners during the disclosure of an unanticipated result, then, may affect parents’ short- and long-term emotional adjustment (Halpern).

Furthermore, the quality of these exchanges with one screener may impact the degree to which parents believe they can trust, collaborate, and share information and feelings with other screeners who are involved in any subsequent screening, diagnostic, and intervention sessions with the family (Halpern, 1984). In UNHS programs, parents’ perceptions and satisfaction with early exchanges with screeners may influence the extent to which professionals are viewed as trusting sources of emotional and informational support and, more generally, the extent to which parents desire professional involvement in their child’s life. Similarly, screeners may continue to reflect upon and worry about a particularly difficult exchange with parents in a period of hours or even days after the disclosure event occurred (Ptacek et al., 1999). These lingering emotional feelings may have an impact on the screeners’ interactions with other parents subsequent to the disclosure event.
Although the nature of parent-professional interaction has been identified as a key influence upon parents' experiences and needs during and following UNHS, little empirical attention has been paid to the interaction within a disclosure session and how each person in the interaction describes the content of the disclosure session. Limited attention has also been placed upon the influence of social processes and social structures upon the ways that parents and the screener make sense of screen results.

Most of the research related to parents' experiences of UNHS has pertained to emotional outcomes with little discussion of ways in which parents are not simply receivers of information, but also actively constructing meaning of the screen results with the screeners. Also, screeners in previous research have been represented as static entities who transmit information to parents. The present study investigated ways that the screener and parents were active participants in an interactive process where understandings about the screen results were exchanged and negotiated.

The research questions in the present investigation included the following: 1) What was the discourse surrounding the disclosure of re-screen results in interactions within one UNHS program and how was this discourse constructed?; and 2) What were potential social influences that shaped these constructions? The present study involved examination of ways that the meanings of re-screen results were constructed through parent and screener talk and interaction and also the consideration of possible functions that parents' and the screener's accounts had in their interactions with one another.
CHAPTER THREE: METHOD

Overview

The purpose of this study was to examine the parents' and the screener's versions of screen results through the in-depth analysis of the talk and interaction of the screen. The way in which parents and the screener construct meaning of screen results may be based in large part in the way in which they are talked about during the disclosure session. Rather than there existing a screen result that simply exists as an objective entity that parents simply react to, I argue that through talk and interaction, a screen result is constructed in discourse in particular ways to achieve particular functions. This study attempted to examine both sides of the interaction -- how the screener constructed and described versions of screen results to parents, and also how parents constructed and described the screen results presented to them.

In this qualitative investigation, I examined 5 family cases involving 5 mothers and 1 screener. I examined the descriptions that parents and the screener provided as they discussed the screening process and, in particular, the re-screen or Stage Two results. Constructions of screen results at Stage Two of the screening process were selected as foci for this investigation because, as noted in Chapter Two, it was at the secondary stages of screening that many parents reported feelings of anxiety or stress.

I examined participants' accounts of the Stage Two screen in three contexts: 1) the screening appointment when the screen was conducted and the result was
communicated (interaction involving the screener and a parent); 2) follow-up interviews with parents and the screener (interaction involving the researcher and a participant); and 3) videotape review sessions where participants could view the screening appointments and discuss them (interaction involving the researcher and a participant). A discourse analytic approach was used to analyze the data. This discourse analytic approach was rooted in broader interpretive framework, which is discussed in the next section.

Researcher’s Interpretive Framework

According to Denzin and Lincoln (2000), views about reality, ways of knowing, and how we come to know influence how researchers view the world and behave within it. These views constitute a researcher’s intellectual perspective, paradigm, or interpretive framework and are significant because they guide the researcher’s strategy of inquiry or, more specifically, the research questions asked and the way the research is conducted and interpreted (Denzin & Lincoln). The purpose of the first section of this chapter is to present the assumptions underlying my interpretive framework. The assumptions that are presented in this section stem from both social constructionism and the discursive action model and are rooted in a post-structuralist epistemology. Following a description of my interpretive framework, aspects of the method are outlined, including description of the research site, recruitment of participants, and sources of data. Then, the discourse analytic approach of Potter and Wetherell (1987) is described. As well, criteria for evaluating
the quality of the study and approaches to representing the findings are presented in
the final sections of this chapter.

Post-structuralism

Post-structuralism has informed my thinking about knowledge, reality, and
language. Post-structuralism arose as part of a “brave new dialogue” (Gergen, 1999,
p. 19) that rejected the principles of structuralism, which was the major theoretical
paradigm from the 1950s to the 1970s (Sim, 1998). Post-structuralism critiqued
structuralist assumptions that the world was systematically organized with underlying
structures and interlocking systems (Sim). A new dialogue of post-structuralism
involved questioning traditional views, critiquing what was accepted as “Truths,” and
revealing new, undiscovered, and alternative forms of life. One view that was
questioned was ontological dualism.

Ontological dualism is an intellectual perspective that has been prevalent in
informing traditional Western thought about the mind, reality, and how we come to
acquire knowledge (i.e., epistemology). Ontological dualism includes assumptions
that a world exists “out there” that can be distinguished from an inner world or mind
(Gergen, 1999). From this view, an objective reality exists independently of
subjective experiences. Despite its widespread influence on ways of thinking about
the world, inadequacies in explaining the causal relationship between the objective
and subjective aspects have been identified and, more specifically, how the physical
world affects the mental world and vice versa (Gergen). Many unanswered
questions are associated with this view, such as how thought leads to action and
how hopes and desires result in physical enactment and particular desired consequences.

Furthermore, epistemological issues related to the way in which knowledge is acquired within a dualist ontological framework have been raised. From a dualist ontology perspective, objective knowledge about the world could be acquired if the mind could reflect or mirror what existed in the world. Gergen (1999) suggested that viewing the mind as a mirror that reflects aspects of the world is problematic because it cannot account for differing perspectives of the same phenomena or how knowledge about more abstract concepts (e.g., "God") could be acquired.

Not only has post-structuralism involved critique of ontological dualism, but also questioning of traditional views of language, which include theoretical assumptions that words act as pictures of the world around us. Post-structuralists reject that truth and objectivity can be achieved through the use of certain words that reflect like a mirror the way the world really is. Post-structuralism includes assumptions that language structures our experiences, our sense of selves, and our sense of others. Meanings that we derive from this language, however, are never fixed. They change over time from person to person and from one context to another (Burr, 1995). If we begin to question the picture-like metaphor of language, then we begin to also question the ability for words to mirror or reflect the world. Without the ability to reflect the world as it is, then words no longer have the ability to represent truth and objectivity. If words do not represent the world as it is, then how are we able to distinguish what is true from what is fiction? In terms of representing our
research findings, these questions highlight what Denzin (1997) referred to as a "crisis of representation."

Just as language does not mirror our surroundings, it also is not value-free (Gergen, 1999). One's interests and values influence the descriptions and explanations that are provided about a particular phenomenon. What one says, for example, will not be an objective account of what is happening or what exists in one's surroundings. Instead, it is an account provided to serve specific interests and values. What people have accepted as neutral, value-free truths spoken from "authorities" may also be instances of accounts provided to suit a person's or a particular group's own interests and values. From this perspective, then, how can we trust any utterance that anyone has to say as truthful or objective without suspecting that the individual is simply trying to serve his or her own personal interests? This is referred to as a crisis of value neutrality (Gergen).

According to Gergen (1999), the style of language used may make words that are spoken or written seem "objective" or "accurate" claims about the world. That is, it may be that the particular words and ways they are put together may appear as "truths," when, in fact, they represent one style, amongst many different styles, of using language. It is not the words themselves that are inherently more representative or more accurate pictures of aspects of the objective world than others. Any number of words or pattern of words could be used to describe the same object, event, or phenomenon. The words used are arbitrary – there is no quality or characteristic about the words themselves that makes them more or less representative of the world "out there" (Gergen).
In describing semiotics, which is the science of signs, Saussure (as cited in Gergen, 1999), noted the arbitrary relationship between the signifier (word or other signal) and the signified (what the word refers to). The signifier and signified may be linked because of social conventions (Gergen). Words become associated with aspects of the world “out there” through their use over time within relationships and interactions that occur in a culturally and historically situated context. Particular styles of putting words together may become “truths by convention” (Gergen, p. 26). The styles that were used or supported by certain privileged or influential people or groups of people in society became over time associated with styles that were representative of “truths.” Some styles of writing and talking were simply accepted as “truths” or “facts.” A scientific style of writing, for example, that uses technical terms with few, if any, first person pronouns like “I” may be afforded more respect as providing “objective” information, because this style of writing and talking has been accepted by convention as part of empiricist accounting.

The notion of an arbitrary relationship between the signifier and the signified is consistent with an assumption that words do not refer to aspects of an independently existing, “out there” world. We acquire meanings about the words used in a language not because they are still-life pictures of the world around us, but instead because of their relationships with other words and phrases (Gergen, 1999). Our understandings about the world stem from the way in which words are used and put together through the application of rules that are specific to a particular language system. A word acquires meaning through two processes: difference and deferral (Gergen). A word gains meaning because it is contrasted with other words.
(difference) and also because we defer to other terms (deferral) in order to understand the word. For instance, the word “car” may be contrasted with other words, such as “bar,” “tar,” or “far.” At the same time, its meaning is gained by deferring to other terms, such as “drive,” “tires,” “brakes,” or “transmission.” Therefore, we come to understand the meaning of the word “car” by contrasting its meaning from other words and also by referring to other terms that we have come to associate with the word “car.”

In describing ways that words gain meaning, Ludwig Wittgenstein (as cited in Gergen, 1999) referred to a “language game” where words acquire meaning through their use within a particular game. For instance, the meanings of the words “hello” and “goodbye” are acquired through their use in certain cultural rituals or “games” of greeting and leave-taking. Meaning, then, is gained through the use of particular words and patterns of words in different situations and for different purposes. Meaning, however, also occurs within broader patterns of actions and objects that are beyond the patterns of language itself (Gergen). These broader patterns are referred to as “forms of life.” Words not only gain meaning from their relationships with other words in a language game, but words also gain meaning because they are used within a particular form of life. In short, words gain meaning through forms of life and forms of life are created and sustained through these words. Words and, more broadly, language generate social life as we know it. As Gergen stated, “language, in this sense, is not a mirror of life, it is the doing of life itself” (p. 35).
Working Assumptions of Social Constructionism

Gergen (1999) suggested that the critique of traditional views of language, the crisis of representation, and the crisis of value neutrality were impetuses to social constructionism. Social constructionism includes propositions about language and social interaction. K.J. and M.J. Gergen (1984), Shotter (1993), and Sarbin (1986) have been recognized as key contributors to social constructionism in North America, with Harré (1986), Foucault (1972), and Wittgenstein (1953) associated with the movement in Europe (Burr, 1995).

Language and relationships are central features of social constructionism (Shotter, 1993). Gergen (1999) outlined four working assumptions of social constructionism. First, language does not represent a world "out there." For instance, there is no quality about the word "bird" itself that links it with what we know and categorize as birds. Any form of representation, whether spoken words, written words, photographs, or maps does not simply provide pictures of the world as it truly exists. Not one of these forms is better at depicting the real world than any other, because a number of depictions are possible (Gergen). In this way, many forms of understanding the world around us can be created.

Second, we make sense of the world around us through the ways in which we use language and other forms of representation in our relationships and interactions with the people, objects, places, and events in our surroundings (Gergen, 1999). Relationships with other people provide a means by which meanings can be shared and negotiated with one another. We understand the world around us through our use of language with other people. Without relationships, words would be empty,
meaningless vessels that served no purposes or functions. Within relationships, meaning emerges from the way language is used to agree, negotiate, or affirm (Gergen).

Third, language and other modes of representation constitute our social lives. They help to construct the world as we have to come to know it. For example, our understanding of graduate studies is dependent upon words such as “thesis,” “dissertation,” “defense,” “comprehensive exams,” and “research.” In the same way, words such as “positive,” “negative,” “refer,” “false-positive,” and “false-negative” have been words that were associated with descriptions of screening results. As Gergen (1999) stated, “without these shared languages of description and explanation these institutions would fail to exist in their present form” (p. 48).

Finally, Gergen (1999) suggested the significance of reflexivity to social constructionism where one critically reflects upon the ways in which we have traditionally viewed the world, knowledge, and truth. Social constructionism encourages a questioning of what we have to come to know, accept, and believe to be true about our surroundings by not only questioning our traditions, but also seeing how they may be culturally and historically situated (Gergen). To celebrate reflexivity is to “... attempt to place one's premises into question, to suspend the 'obvious,' to listen to alternative framings of reality, and to grapple with the comparative outcomes of multiple standpoints” (Gergen, p. 50).

In summary, rather than acting as labels for the inner workings of the mind, such as thoughts, feelings, or attitudes; language functions to structure our experiences and the way in which these experiences are construed (Burr, 1995).
Burr stated that language “provides us with a system of categories for dividing up our experience and giving it meaning” (p. 44). Not only does language structure our experiences, but also we use language as social practices in our day-to-day lives. In UNHS programs, for example, the words that have been incorporated as part of recommended screening protocols, such as “pass” or “refer,” and those words that are not recommended, such as “fail,” will structure the way that the screener constructs or make sense of the screen results. As well, in the act of discussing the re-screen results, the parent and the screener use language in their moment-to-moment exchanges to construct the meaning of the re-screen result with one another. In this way, the meaning of the re-screen result is co-constructed or shaped through an interactive process of communicative actions. How did the language used during the moment-to-moment interactions between parents and the screener in this investigation influence the way that parents and the screener made sense of the results? The action-oriented nature of language is discussed further in the following sections with respect to a) the construction of versions in discourse, and b) the construction of meaning in interaction.

*Construction of Versions in Discourse*

Social interaction and language are the mediums by which social realities are constructed. In contrast to realism, where an account is viewed as a pathway to a truth or “reality,” I believe that what each individual believes to be true, factual, or real reflects that person’s *construction* of mind, identity, and reality as he or she performs social practices (Potter, Edwards, & Wetherall, 1993). In the discursive action model (Edwards & Potter, 1992; Potter et al., 1993), mind, identity, and reality
have been reconceptualized as discursive topics. Discursive topics are the events, memories, beliefs, attitudes, and experiences that people topicalize or imply in their discourse (Edwards & Potter). They are aspects of life that are actively talked and written about.

Construction as an active process. Potter and his colleagues (Edwards & Potter, 1992; McKinlay, Potter, & Wetherell, 1993; Potter et al., 1993; Potter & Wetherell, 1987) used the term "construction" to refer to the way in which discourse is actively put together using particular "building blocks" or linguistic resources. This process of construction is active because a person chooses particular linguistic resources and does not choose others when constructing his or her discourse. Language is used for a variety of different purposes. This concept of the performative aspects of language is contrary to a realist view where language is represented as mirroring or labelling experiences. Language does not represent a static pathway to cognitive states. Furthermore, language is not symbolic of truths or an "out there" reality. People do things with their language (McKinlay et al.). For example, Potter et al. suggested that people's accounts of other people, events, or objects in their lives were often rhetorically organized (Billig, 1987), because they were actively constructed to undermine or counter alternative accounts or descriptions. Language, then, does not simply mirror or reflect aspects of a person's experience – it is performing social functions. Language is performed as part of actions, which are themselves a part of sequences of interaction (Potter, 1996).

People construct versions of mind and identity (Potter et al., 1993). In other words, they describe and make claims about their inner lives and what they and
other people are like through their discourse. These descriptions are not stable, unchanging entities -- they are dynamic, flexible, and perform functions for people. They contribute to the action-oriented nature of discourse. Descriptions are also not pathways to a person's inner life, nor do they describe what is true for all human beings. The word "description" implies a one-way process of stating what is. Moreover, it implies that events, actions, people, and beliefs can be described objectively such that a certain consistency can be achieved until a description can be accepted simply as what is or, in other words, as a transparent medium representing what is real or true. This notion of description, however, does not take into account the way that descriptions stem from particular perspectives and interests (Potter et al.).

Personal realities or what people perceive as true or factual about their lives is a "version" or account that stems from particular interests and perspectives. Versions can be constructed because of personal stake or interest in a particular action or consequence. Having a stake or interest in some event or activity can influence the version that is constructed of that event or activity. Descriptions, then, are not viewed as neutral representations of what is true. They may be used to perform certain actions that serve particular institutional or personal interests. Potter et al. (1993) suggested that many social actions involved "dilemmas of stake or interest." A feature of interaction is that some people or groups are viewed as having a personal or institutional stake or interest when performing their social practices. For example, a politician's promise of reducing taxes may be perceived by voters as simply a way to win votes prior to an election, rather than as a legitimate action plan
in support of the public's interests (Potter, 1996). Potter et al. referred to a "dilemma of stake and interest" because the influence of stake or interests in social practices can create a dilemma as to whether to accept the version as "fact" or to discount the version as reflective of particular interests.

Construction as embedded in context. Potter et al. (1993) argued that every description was a version of a personal reality, and that these descriptions were affected by who was doing the speaking, who was doing the hearing, and the context in which the description was embedded. The context and occasion of an utterance's use influences its meaning. This is referred to as indexicality (Potter, 1996). The sense (what is being communicated) and reference points (who or what is being referred to) for any particular utterance would not be understandable or meaningful to participants in an interaction without details about the specific interactional context (Potter). An utterance is understandable and meaningful to the participants of an interaction because these participants have agreed upon the utterance's context and occasions for its use. Words in context make an utterance understandable to the interactional participants. Language is understood when members of the interaction share in procedures to develop meaning in context.

Each of our perspectives is locally situated in a particular group of people and within a particular time and place and perceived to be a "reality" for each individual. This notion of the local and social situatedness is consistent with assumptions of discursive psychology (Edwards & Potter, 1992; Potter et al., 1993). According to Edwards and Potter, the way in which people construct versions of their experiences is related to how they describe and explain their experiences. These descriptions or
explanations in the localized context of an interaction make sense to individuals through the social actions that these descriptions and explanations complete within that situated context.

A version can be presented as "true" or "real" through descriptions, accounts, and factual claims. Claims can be presented as factual through factual discourse, which involves ways of speaking and writing that are presented as version-free accounts of a particular phenomenon. For instance, Edwards and Potter (1992) suggested that empiricist accounting is a style of discourse that is often used in scientific or technical writing to portray a version as objective or factual. Empiricist accounting places phenomena in the foreground as agents in description and either minimizes or omits altogether the influence of humans. On the other hand, descriptions can be made more subjective by foregrounding human experiences, behaviours, and emotions and their impact on phenomena.

Not only do individuals who use linguistic resources for particular functions and purposes construct discourse, but discourse is also constructive of a person's lived reality (McKinlay et al., 1993). A person's sense of "reality" is constructed through these accounts. For example, what people believe to be "true" or "real" may not stem from first-hand accounts, but instead from linguistic versions that are accessed in their local contexts, such as in their local newspaper. Linguistic versions can be construed as "fact" rather than as versions serving the interests of certain influential groups who have power, control, and status over other groups. These versions may be accepted as part of the "culture" and may manifest themselves in the everyday lives of individuals. This does not mean that people are simply under
the constant control of a power structure or ideology. It is the ideology or power
structure that limits the options that are perceived as acceptable or desirable in a
particular group, but each person still has the capability to make choices. In this way,
it is possible to see how people use discourse and, yet, discourse also uses people
(Potter & Wetherell, 1990).

For example, in screening contexts, the descriptions that the screener
provides to parents may be viewed as credible pieces of information through the
language that the screener has used to describe the result (i.e., how people use
discourse), but also because of the broader context in which the description is
embedded (i.e., how discourse uses people). A description may be embedded in a
cultural context that portrays professionals in health care settings, such as
physicians and nurses, as knowledgeable authorities who provide “truthful” and
“factual” information. The screener by nature of providing descriptions in this cultural
context may also be viewed as a knowledgeable authority who presents “facts” and
“truths” about health conditions, such as hearing loss.

Constructing Meaning through Interaction

Gergen (1994) suggested that understanding and meaning are generated at
the level of the human relationship. Words in and of themselves have no meaning
without human interaction. According to Gergen, language only begins to have
meaning when other people coordinate themselves to it by providing some form of
supplementary action. A supplementary action may be, for example, a refusal in the
form of shaking one’s head or an utterance such as “no.” This supplementary action
is needed to give function (e.g., refusal) within the interaction. An utterance, then,
only becomes meaningful when others respond to it as communication using various forms of supplementary actions. Gergen argued that meaning is located within the process of the relationship and, more specifically, the action-and-supplement rather than within the text or within the language system (p. 265).

Supplementation may act to create meaning because in providing a particular supplement a person is treating an utterance in a certain way and thus putting certain limitations on responding or inviting particular ways of responding. As Gergen (1994) stated, a certain “potential” for responding to the meaning of the supplement is created. At the same time, some action-and-supplements have already been coordinated with one another in our respective cultural lives and viewed in society as sensible and meaningful. Actions, then, may depend on particular supplements in order to be viewed as understandable or accepted as meaningful (Gergen).

Action-and-supplement continue to build in a relationship or interaction such that a supplement may lead to further action, which may then lead to an additional supplement, then to another action, and so on. Meaning does not stop or remain stable within this series of action-and-supplement coordinations. Instead, meaning is temporary. Meaning within these coordinations can be refined and further clarified in future action-and-supplement coordinations, because each additional supplement occurred within the context of the initial action. Meanings, then, have an “open” quality about them because they can be continually reconstituted (Gergen, 1994).

The potential for meaning in one relationship or interaction was influenced by a pattern of meaning-making through a series of other relationships (Gergen, 1994).
Previous patterns of meaning that have operated outside of a person's immediate constellation of relationships may permeate into our relational realm through interaction. These patterns of meaning-making may have been supplemented and changed over time as they were passed on from person to person and relationship to relationship. Gergen stated, "meaningful communication in any given interchange ultimately depends on a protracted array of relationships, extending, one may say, to the relational conditions of society as a whole" (p. 268). In this way, meanings may eventually become mutually shared. Consensus in meanings is associated with agreed-upon ways of describing and explaining aspects of the world, which are in turn interpreted as "common sense."

Even with consensus, however, there exist possibilities of misunderstandings (Gergen, 1994). A couple may be described as "misunderstanding" one another because certain experiences, actions, and events have been labelled by cultural conventions as a "failure to understand" (Gergen). Misunderstandings may also occur because meaning is temporary and changes as we move from context to context and move from relationship to relationship. As we meet new contexts, our patterns of meaning from the past will still exert their influence. They will be re-shaped and reconstituted into another. As we meet other people, who have developed a unique pattern of meanings from a history of action-and-supplement coordinations within a range of relationships and interactions, we may encounter new and unfamiliar actions and supplements. Aspects of these encounters may be familiar in some situations in a particular time and place and novel in another. It is in these novel and unfamiliar times that misunderstandings become possible (Gergen).
In the previous sections, my theoretical assumptions pertaining to the social and action-oriented nature of language, the functions of language in interaction, the constructed and constructive nature of language, and descriptions as versions have been presented. The social, interactive, and functional qualities of language affect the versions or accounts that individuals create about events, people, and various phenomena. These versions, in turn, affect what people believe to be true about their world around them or, in other words, their conceptions of "reality." These theoretical assumptions have driven my emphasis upon language, discourse, construction, and versions in this investigation.

Rather than viewing parents as simply reacting to a screen result as a static entity, we can begin to see that the interactive process that occurs between parents and the screener shapes the manner in which parents and the screener make sense of a screen result. In this light, less emphasis is placed upon a finding of a "pass" or "refer" screen result per se, and more emphasis is placed on the way that this result is constructed and its consequences for what people do. The words "pass" and "refer" are meaningless in and of themselves. Of significance in this investigation is how these words are constructed within the interaction between parents and the screener, and how they have been assigned meaning with a culturally and socially-situated context. The next section of this chapter presents more specific details about the data collection and analysis procedures of this study.
Research Design

The primary aim of this study was to examine ways in which parents and the screener constructed accounts of re-screen results in their social practices. My interest in naturally-occurring talk as social practices in interaction indicated a need to obtain data in situ as participants were engaged in interaction. In previous studies of parents' reactions to hearing screening, parents typically responded to questionnaires pertaining to their attitudes and emotional reactions related to the screening process. Not only were these studies focused upon the outcomes of screening for parents, but also they were not examining the naturally-occurring interactions between parents and the screener or their accounts of the re-screen results. In addition, the screener's voice in the interaction was absent from these investigations.

What is missing is qualitative research that incorporates procedures that allow proximity to parents and the screener and their versions of the screen results, and rich description of their naturally-occurring talk. Investigation of naturally-occurring talk allowed consideration of what parents and the screener were doing with their language when they discussed the screen results. By looking at the social functions of language in UNHS disclosure sessions, researchers can begin to understand how parents and the screener construct meaning together through their interactions with one another.

Five family cases were examined in this investigation using a qualitative research design. Four of the five family cases each involved one observation and two follow-up interviews. The observations involved interactions occurred between
the screener, who was responsible for disclosing hearing screen results to parents, and mothers, whose infants had received at least one positive result from an initial stage of screening (i.e., Stage One). In all four of these cases, the infants received negative (pass) results at the Stage Two screening appointments that I observed. Following each observation, I conducted two semi-structured interviews: one with the parent and one with the screener. The fifth family case involved individual, retrospective interviews with the parent and screener who were involved in a Stage Two screening sessions where the result obtained was positive (refer/fail).

Observation and interview data were analyzed using a discourse analytic approach developed by Potter and Wetherall (1987).

A discourse analytic approach was deemed the most appropriate fit with the aims of the present study. First, more than any other method, it allowed me to examine *in-depth* the language and interaction of the participants through a social psychological lens. It examined the language of the interactions as discursive acts that could vary in function depending upon the social context. Second, it also allowed me to consider the broader social frameworks and discourses in which I saw the interactions were embedded, which distinguished the discourse analytic approach from other in-depth analyses of communication and interaction, such as conversation analysis or ethnomethodology. Third, discourse analysis also distinguished itself from other qualitative and quantitative methods through its focus upon the process of *meaning-making* rather than solely upon the delineation of meanings or categories. For example, the present investigation through its discourse analytic approach examined the process of co-constructing meanings through its
exploration of the influences that an interactional or conversational partner had on the meaning-making process of the participants. The language of each participant in the talk and interactions, including the talk of the researcher, was viewed as a significant part of analysis. Finally, discourse analysis was also selected as a method because of its fit with my own epistemological and ontological assumptions that I outlined previously in this chapter in the section entitled, "Researcher's Interpretive Framework." Specifically, a discourse analytic approach allowed me to focus upon the process of meaning-making through discursive acts, where language was not viewed as a pathway to or mirror of a static and stable set of beliefs or thoughts of the participants, but rather as social acts that served different functions depending upon the interactional context.

Research Setting

Data were collected from a provincial UNHS screening project in Canada, which at the time of data collection was one of only two provincial UNHS initiatives in Canada. The UNHS screening project involved in this investigation was screening a minimum of 95% of babies by 3 months of age in four participating regional health authorities using a two-stage, two-technology approach. A multi-stage screening process existed such that if a positive screen result was found, then further screening followed it.

Stage One involved an initial screen where well babies (i.e., those babies who are not in the Neonatal Intensive Care Unit) were screened within approximately 12 hours of a normal birth. Infants who received a pass on this screen did not require further screening. Infants whose hearing was not confirmed were flagged for follow-
up screening. A second screening was conducted within 8 hours. If normal hearing was not confirmed at the second screening, then a second stage of screening (i.e., Stage Two) occurred either in the hospital or in a regional outpatient facility. If normal hearing was not confirmed after the two stages of screening, then an audiological diagnostic assessment was arranged approximately one month after the screenings. A multi-stage approach to UNHS is recommended by the Joint Committee on Infant Hearing (2000) and is used in a variety of screening programs in North America because of its association with lower rates of referral to diagnostic testing. The overall in-hospital referral rate for the provincial screening project was 17%.

One regional health authority in the provincial UNHS project was involved in this study. This region was selected because of the large proportion of infants that are screened within a single region. Of the 6655 infants screened in the four regions participating in this UNHS project, 3588 infants were screened in the selected region. The screening programs in this region, then, provided services to more than 50% of the infants screened in the entire project and, thus, seemed like practical and logical sites to investigate UNHS and the interactions between parents and the screener. One outpatient facility in this region, where disclosure of screen results at Stage Two occurred through face-to-face interaction, was selected as a site for this study. All observation and interview data were collected at this site.

Sources of Data

Data were collected through focussing upon three types of interactions: one type involving parents and the screener as they discussed infant hearing re-screen
results, another involving the researcher and parents discussing parents' accounts of the re-screen results, and, another involving the researcher and the screener discussing the screener's accounts of the re-screen results. Data were collected over a 5-month time period through three primary means: 1) observation of meetings between the screener and parents as they discussed the results of the Stage Two screen 2) individual, semi-structured interviews with parents and the screener after the completion of the disclosure meetings; and 3) review and discussion of the videotaped footage of the disclosure meetings with the parents and the screener. I also had the opportunity to look at two types of print resources in the screening project: pamphlets that parents received after obtaining the screen results and also the screening project's manual of guidelines and protocols. Throughout the 5-month period, I also recorded memos of my process as a researcher collecting and analyzing the data. Some of these memos were discussed with respect to the analysis of the data (see Chapter Four) and were described in this study as "Researcher's Process."

My aim was to obtain the accounts of both positive (refer/fail) and negative (pass) types of results. However, most infants after the first and second stages of screening are not diagnosed with a hearing loss or, in other words, receive refer or negative screen results. The four families (i.e., Family Cases 1, 2, 3, and 4) that I observed in screening interactions involved the discussion of results that were negative. I did not have the opportunity to observe the interactions of parents and the screener as they discussed positive screen results. Therefore, it was necessary to develop another means to obtain at least one account of a parent whose infant
had not passed the Stage Two screen. With the assistance of the coordinators of the provincial screening project, I was able to conduct retrospective interviews with the parent and screener who participated in a disclosure meeting where positive re-screen results were discussed (i.e., Family Case 5). In these instances, I asked the screener and parent during the interviews to think back to the events of the disclosure meeting and their communicative exchanges with one another and to reconstruct the meanings that developed about the re-screen results within the context of that interaction. Because this family case involved the mother and the screener looking back upon their experiences at Stage Two, it was not possible for me to observe and videotape the screening interactions or conduct the videotape review portion of the study. Therefore, the fifth family case involved follow-up interviews only.

Observation of screening interactions. I observed the four parent-screener sessions where parents were being informed about their infants' re-screen results. Disclosure of the re-screen results occurred immediately after the screening procedure(s) itself; therefore, the infant was always present at the disclosure meetings. Parents who attended the disclosure meetings at the second stage of screening had already received a "refer" result from an initial stage of screening. Disclosure meetings at the hospital where the screener and parents discussed the results of the re-screen were videotaped and audiotaped. I used an audio-recording device as a back-up in case of technical difficulties with the video camera. I took brief notes related to the date, time, location, participants in the meeting, presence of other people in the room, interruptions, and any personal comments that were
related to the meeting itself or more practical matters pertaining to recording and equipment.

The purpose of the video- and audio-taped interactions was to discover how parents and the screener communicated and interacted with one another during meetings to discuss infant re-screen results, and, moreover, to obtain their descriptions of the screen results. I was most interested in their verbal exchanges; however, I found that participants also co-constructed meanings through non-verbal communicative exchanges. Although non-verbal behaviours were not foci for investigation, I noted non-verbal aspects of the interactions at times when I felt a version was being constructed related to the Stage Two screen. Non-verbal aspects of the interactions that were of interest to me are further described in the “Data Analysis” section.

Follow-up interviews. To further explore parents’ and the screener’s accounts of re-screen results, individual interviews were conducted with the screener and the parents who were involved in the 4 disclosure meetings that I had observed. In all cases, the mother of each infant was present during the disclosure session. Each of the parent interviews was conducted immediately following the screening session. If same-day interviews were not possible with the screener following the disclosure meetings, then interviews were scheduled on the morning of the following day. The retrospective interviews involving the fifth family case were conducted on a separate day from all other family cases.

Examples of questions that I asked parents and the screener during the interviews included, “Tell me what happened in your meeting with (the screener or
parent) on (date)," and "How would you describe the results of the screen?" I also asked, "What do you think about these results?" and "Given the result of the screen, what are your next steps?" Another component of the interview was not only to access participants' talk about the re-screen results, but also factors that influenced their talk such as whether they had prior experience with or knowledge about UNHS. This part of the interview was aimed towards learning about each participant's context of constructing versions of the re-screen results. In what ways did the screening context influence the ways in which participants understood the results? How did my presence during the disclosure meeting influence participants' experiences? The interview guide that was used for interviews with parents is in Appendix A. The interview guide that was used for interviews with the screener is in Appendix B.

_Videotape review._ Videotaped footage of the interactions between parents and the screener was also used to conclude the follow-up interview phase of the investigation. Participants had the opportunity to view and discuss the videotaped footage of the screening interaction. The purpose of the videotape review was to provide parents and the screener with another context in which to share their accounts of the Stage Two screen and the meaning of the re-screen results. I reviewed the videotaped footage of the parent-screener interactions during the disclosure meeting with each participant. This videotaped footage allowed us to revisit the events of the disclosure meeting and to discuss specific points of the interaction. In this way, participants reflected upon their experiences at particular
moments during the disclosure session. The focus, again, was on the descriptions and explanations that parents provided about the re-screening.

*Researcher's process.* During the disclosure sessions, parents and the screener shared their versions of the screen results with one another. They each acted to influence the other as they engaged in an interactive process of constructing meanings of the screen results. At the same time, I, too, influenced this meaning-making process through my presence at the disclosure meetings and my interactions with parents and the screener. I constructed meanings of the re-screen results as I collected the observation and interview data. The way that I made sense of the screen results influenced what I saw as significant features of the disclosure session and the questions that I posed during the follow-up interviews.

I was present during the disclosure sessions between the parents and the screener, and I took note of aspects of the session that were relevant and significant to me. I was an active participant in the follow-up interviews with parents and the screener. Throughout data collection and analysis, I engaged in a process of self-questioning and reflection about my process of meaning construction of UNHS re-screen results and how this process influenced my interpretation of the data. I recorded these reflections as memos, and referred to them throughout data collection and analysis.

*Recruitment of Participants*

The process of recruiting participants in this investigation involved seeking the assistance of gatekeepers, who were key contact people whose permission must be
sought prior to gaining entry to an organization or program. Gatekeepers from the provincial UNHS project were key, information-rich informants in a criterion-based, purposive sampling procedure where the screener and parents from the screening project were selected. Key gatekeepers from the provincial UNHS project were identified based upon their involvement in the screening program since its inception, as well as their extensive knowledge of the program's screening protocols, policies, and each health care provider's role and responsibilities in the program. Key gatekeepers of the program were contacted and informed of the project. In this study, the gatekeepers assisted in the recruitment of 5 parents whose infants were screened at Stage Two and 1 screener who was responsible for communicating the re-screen results to these parents.

Issues related to the nature of this sample and the sample size were not problematic according to the discourse analytic approach used in this investigation. The discourse analytic approach emphasizes language use and, therefore, a large number of linguistic patterns are likely to emerge from a small number of participants (Potter & Wetherell, 1987). From this perspective it is argued that there is considerable variability in the use and functions of discourse in any one person, which means that diversity in participants is not a prerequisite for accessing diversity in linguistic patterns.

Selection of the screener. Key gatekeepers at the UNHS program who were involved in the screening project at the outpatient facility in the region were sent a package that included a letter of introduction to the study (seen Appendix C), as well as letters of invitation and consent for the screener (see Appendixes D and E). If the
gatekeepers agreed to participate, then they were asked to assist in the sampling procedure by providing the screener with an invitation to participate in the study, as well as a copy of the consent form. The screener that was given an invitation spoke English as a first language and was responsible for sharing information about the re-screen results to parents.

One Stage Two screener agreed to participate in the study. After I was informed of the screener's interest in participating in the study, a meeting was arranged where we discussed the study, the extent of the screener's involvement, and the informed consent form. I assured the screener that the data acquired was not used to assess job performance, and that their participation would in no way jeopardize their employment with the provincial UNHS Project.

Selection of parents. Stage One screeners in the region assisted in the recruitment of parents by distributing recruitment notices (see Appendix F) to parents who received a "refer" result after Stage One screening. The notice was handed to parents as part of an information package that they received about UNHS and the Stage One screen result prior to their discharge from the hospital. The Audiology Coordinator of the UNHS project also mentioned the study as she was booking appointments with parents for their Stage Two screen appointments. If parents were interested in participating in the study, they could 1) contact me for further information prior to their screening appointment, or 2) talk with me at the outpatient facility where their infant's hearing was being screened.

Upon consultation with the Audiology Coordinator, I arranged to visit the outpatient facility on days when parents of infants who had received initial, positive
Stage One screen results were scheduled to return with their infants for hearing re-screening at Stage Two. Interested parents were delegated to the Stage Two screener who agreed to participate in the study. I invited parents to participate in this study prior to their re-screen appointments. I met parents in the waiting room of the outpatient facility prior to their appointments and introduced the purpose of this study, my role, and the criteria for participation in this study. Criteria for participation in this study included parents of children who were in the Well Baby Nursery, parents of children who did not possess high risk factors for hearing loss but who had received a positive hearing screen result from the first stage of screening, and parents whose first language was English.

Parents of infants in the Neonatal Intensive Care Unit were not selected as participants, because the focus of this study was not upon high risk screening but upon universal newborn hearing screening where infants in the Well Baby Nursery are screened for hearing loss. The study invited participation from parents whose first language was English, because the focus of the study was on discourse and, therefore, fluency in English was essential.

Prior to the screening appointment I provided parents with additional information about the study. I discussed with parents the nature and extent of participant involvement as well as issues of anonymity and confidentiality. Parents were also given more detailed information about the study and the extent of participant involvement (e.g., discussion of informed consent; see Appendixes G and H). I informed parents that their involvement was in no means reflective of their child's hearing status. Moreover, parents were informed that the focus of this study
was not on their infants' hearing status per se, but, rather, on their own interactions with the screener and their process of understanding the screen results following these interactions.

If parents were interested in participating in this study and also fit the criteria for participation, I asked them to sign a consent form (see Appendix G) and return it to me prior to their appointments. Parents of four infants who fit the criteria for sampling were selected in this manner. The parent of one infant who had received a positive (refer) result at Stage Two and who had been subsequently diagnosed with hearing loss (i.e., Family Case 5) was recruited in a different manner. A gatekeeper in the UNHS project provided the parent with introductory information about the study and inquired about her interest in participating. After she indicated interest, then I contacted the parent directly to discuss the study and to arrange a meeting time and place to conduct the interview.

Discourse Analysis

There are a number of types of analytic approaches that have been categorized as "discourse analysis." Each type of approach has different theoretical roots. One approach has been linked closely with cognitive science and discourse processes. Its focus has been on how patterns of discourse affect one's memory and understanding of events and also how mental scripts and schemata may influence how people understand language (Potter, 1997; Potter & Wetherell, 1990). Another approach with influences from speech act theory has focussed more upon the verbal interaction patterns, such as patterns of initiations, responses, and
feedback (Potter; Potter & Wetherell). A third type, with roots in continental social philosophy and cultural analysis (e.g., Foucault, 1972), has been referred to as continental discourse analysis. Discourse in this approach is less focused upon the patterns of interactions themselves and more upon how subjects and objects become constituted through a set of statements (Potter). A fourth type with roots in linguistics has focused upon linguistic units, such as words and sentences, and their operation within discourse (Potter & Wetherell). To further complicate matters, the term “discourse analysis” has also been used as a more general, all-encompassing term to refer to a combination of approaches to examining language with diverse roots in social psychology, sociolinguistics, and speech act theory (Potter & Wetherell). Because of the variable strands of work that have been labelled “discourse analysis,” it is necessary to specify what is meant by “discourse analysis” in the context of this study.

The observation and interview data were analyzed using a discourse analytic approach developed by Potter and Wetherell (1987). It can be differentiated from the other four types of discourse analysis. It rejects the cognitivism associated with the cognitive approach, or, in other words, it rejects the view that experience and knowledge are acquired solely through individual mental processes and structures. It also rejects the somewhat mechanistic and less socially attuned approach associated with linguistics. Potter and Wetherell’s approach is informed by the Foucauldian approach to discourse analysis (i.e., continental discourse analysis) because of their shared interests in the social aspects of sense-making. However, the two approaches differ in that Potter and Wetherell’s discourse analytic approach
emphasizes particular instances of talk or writing, whereas continental discourse analysis is more focussed upon the production of knowledge through institutions and social organizations (Potter, 1996).

According to Potter (1997), discourse in the form of talk and writing can be used for social practices. Analysis of discourse involves examining the social actions and practices that people perform with their talk and writing. More specifically, discourse analysis involves examination of how social practices are constructed and functioning in discourse, as well as the resources drawn upon to perform these practices. The emphasis in analysis was the examination of the ways in which versions of experience were produced and constructed in discourse (Potter).

Potter (1997) suggested that discourse analysis does not have a prescribed sequence of steps associated with it. Instead, discourse analysis involves an analytic mentality where one learns the approach to analysis by doing. Only through the process of working through the data can a researcher develop this mentality. Potter and Wetherall have provided broad categories of actions that are associated with this form of discourse analysis, which include transcription, coding, analysis, and validation. They emphasize that these categories are not meant to be strict guidelines that must be adhered to in a particular sequence. The next section will focus upon transcription, coding, and analysis. Validation will be discussed in the section “Evaluating the Quality of the Findings.”

**Transcription**

The discourse analytic approach of Potter and Wetherell (1987) has focussed upon the utterances that are communicated in interaction. In this study, the
utterances that were spoken during the disclosure meetings, as well as the follow-up interviews, were transcribed using Gail Jefferson's (1984, 1985) transcription system (see Appendix I). This system for transcribing the utterances was selected because it included standard conventions of transcription that have been used in a number of previous discourse analytic studies (e.g., Potter, 1988; Potter & Halliday, 1990; Potter & Reicher, 1987).

According to Potter (1997), transcribing these details of language in this way allows for discourse analysts to make inferences about how features of language are components of action. Pauses, hesitations, intonation, and emphatic tone are features that contribute to an action-oriented language, and, therefore, according to Potter, should not be ignored. Just as certain words and patterns of words may function as social practices, so does the manner of their delivery contribute to creating certain versions or descriptions of objects, persons, or events in one's world. Transcribing these details of language is not meant to represent a picture of that world, as a correspondence theory of language would predict. Transcription is a constructive process (Potter & Wetherell, 1987). In the act of transcribing, the transcriber is making judgements about what to transcribe and how to transcribe. Transcription is itself an interpretation (Lapadat & Lindsay, 1999). In this study, specific details of the utterances were viewed as contributing to its performance and specific function in an interaction (Potter, 1996, 1997).

Video-recordings served as a rich source of data, particularly pertaining to the videotape review portion of the follow-up interviews and the examination of some of the physical aspects of interaction. After I had obtained all videotaped data, I
transferred them from analog to digital format using computer video editing software (Ulead VideoStudio Version 8; Ulead Systems, Inc., 2003). Once digitized, I uploaded video clips into a computer program called Transana (Woods, 2004). Transana is a program that facilitated the transcription of my video data, because it allowed me to simultaneously view the video footage and create the transcripts. With Transana, I was able to link particular sequences of text with specific video clips. Transana also incorporated the Jeffersonian transcription system into the program, which allowed me to readily use the symbols as I was transcribing.

The videotapes were transcribed with focus upon the talk of the interaction\(^2\). I began the process of transcription with an initial viewing of a videotaped sequence of interaction. I took note of my initial impressions of the video footage. In-depth transcription involved multiple viewings of the video footage. The video footage was viewed in intervals and transcribed in segments. Initial transcription focused upon the words of the utterances, then repeated transcription was necessary afterwards to incorporate the Jeffersonian transcription system.

I also noted in the transcripts some non-verbal aspects of the interaction that helped me become more familiar with the data and complemented the language that was the focus of my investigation. In a separate transcription key (see Appendix J), I recorded some of the broader physical aspects of the interactions, such as eye gaze, distance between participants, facial expressions, and movement. These

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\(^2\) Due to ethical considerations and the inability to include the videotaped data, the decision was made not to include a transcript with the analysis and findings of the study.
physical aspects of the interactions were used to supplement the examination of the action-oriented nature of language within specific parts of each interaction.

**Coding**

Coding involves selectively dividing the data into manageable chunks (Potter & Wetherell, 1987). These divisions were made according to the research questions of the study. Potter and Wetherell recommended including all potential instances during the coding process, including ones that appear ambiguous or borderline (p. 187). In this study, divisions were made according to talk about the screen result itself, including topics related to the nature of the result, what it meant, and implications of the results. These topics were divided from other kinds of talk, such as talk about process of screening itself or past screen results. Particular topics selected in this investigation were description of the Stage One result, description of the Stage One screen, discussion of the wait period prior to the Stage Two screen, description of the Stage Two screen, discussion of the period waiting for the outcome of the Stage Two screen, and description of the Stage Two results. Sequences of talk related to these topics were identified and compared and contrasted with one another. I was interested in examining these sequences of talk in context, that is, within the context of the interaction and the rest of the conversation.

**Data Analysis**

Analysis involved a process of reviewing the videotaped and audiotaped data multiple times, developing the transcripts, and reading and re-reading the
transcripts. I referred to the pamphlets and screening manual when they were cited in the transcripts to consider ways in which they may have supplemented the talk of the interaction. I read each transcript at least once without attempting to analyze it. According to Willig (2003), this allows a researcher to experience being a "reader" in determining the various discursive effects of the text. In my initial reading of the transcripts, my focus was upon the feelings that came across as I was reading the text. What did it sound like even though it may not have been explicitly stated? In this way, I developed an awareness of what the text was doing (Willig, p. 165) and was then able to begin developing hypotheses about how the text was able to accomplish this.

Observation and interview data represented discourse where talk was social action, which meant that my own talk during the interactions was analyzed in terms of its construction and social functions. Part of my role in the analysis was to be continually considering ways that my own version of events may have influenced not only the way I talked with participants, but also the way I analyzed the data. The goal here was not to keep these reflections at bay, but instead to examine them and their influence in my talk in interaction, as well as my process of analysis.

Potter and Wetherell (1987) recommended looking at the "nuances, contradictions, and areas of vagueness" (p. 168) in language, and what was said during the interaction rather than trying to sum up the meaning or gist of utterances. Discourse was examined in this study with the following foci in mind: a) searching for patterns of variation and consistency; b) developing hypotheses about the way discourse is used for particular functions in interaction; and c) examining the
linguistic resources of discourse. With these foci in mind, I analyzed the segments of talk and interaction. Analysis involved an ongoing process of writing. Writing in this type of analysis was not a separate process; writing was tied in with analysis. It was only through writing that the analysis could be clarified. Through writing, inconsistencies and tensions were identified and then led to new insights (Willig, 2003, p. 166). It involved the continual process of returning to the data to consider the tensions and inconsistencies and then returning to the process of writing.

**Searching for patterns of consistency and variability.** Searching for patterns in the data includes looking for features of talk and writing that were present across accounts and also looking for differences or variability in the content or form of accounts. Not only are talk and writing expected to vary in form because of the numerous ways in which people can construct their talk and writing, but also talk and writing are expected to vary in function because people use their talk and writing to perform different functions (Potter, 1997). The goals of analysis were to identify patterns of consistency and variability and to specify features of particular constructions that constituted these constructions as accounts with functions and consequences. In this study, patterns of consistency and variability were examined in the talk and interactions that occurred during the disclosure meetings.

**Developing hypotheses about function.** Discourse analysis also involves using data to develop hypotheses about the functions and consequences of talk and writing (Potter & Wetherell, 1987). Functions are not simply present in the data, waiting to be identified. A primary goal of discourse analysis is to develop
hypotheses about function by making inferences about the ways talk and writing are used for certain purposes and the ways in which they achieve particular effects (McKinlay et al., 1993). In this way, functions do not represent the data itself; rather, they are the findings of the study (McKinlay et al.).

According to Potter (1997), identifying variability in talk and writing is a key analytic means of understanding function. Because people vary the way they talk and write depending upon what they are doing, accounts of an event, group, or person will vary as the functions or purposes change (McKinlay et al., 1993). In this way, people provide changing versions of their lives and experiences through their talk and writing. Variability in talk and writing, then, is associated with function and, therefore, variation is a clue to understanding function (McKinlay et al.). Part of what an analyst can do is to identify kinds of variation in talk and writing and the corresponding function that is expressed through discourse.

In trying to develop hypotheses about functions of discourse, I was attentive to three aspects of functions. First, language may be used in ways that have intended and unintended consequences. Some forms of talk and writing may be used in ways that have consequences that the speaker or writer may not have intended or even understood (McKinlay et al., 1993). Second, functions may be explicit or hidden. Functions are more explicit in discourse when talk or writing is used to directly do specific things like request, blame, or excuse. Talk or writing may also be used indirectly in such a way that the functions of language are hidden or less explicit.
Finally, functions may also be interpersonal and ideological in nature. Interpersonal functions are based in the interactions and inter-relationships in the local discursive context. Here language is used to perform a function, such as blame, explain, or excuse, within the interaction and within relating individuals. In a UNHS program, for example, a parent may repeat the result to the screener with a rising intonation. This repetition may be interpreted as the parent's request for the screener's clarification or elaboration upon a previous utterance. Ideological functions, however, have purposes that are more broad-based and widespread in nature and extend beyond the local interactional context, such as when talk is used to promote the status of one group in society over another (McKinlay et al., 1993). In this investigation, I tried to be mindful of these aspects of function as I examined sequences of talk and hypothesized about the purposes that the talk served within a particular sequence.

Identifying linguistic resources. In constructing versions or accounts, people draw upon a variety of linguistic resources that are used to facilitate certain actions and purposes. These linguistic resources include interpretative repertoires. When people describe the world around them, they draw upon a system of terms, metaphors, and figures of speech that are repeatedly used to characterize and evaluate the activities and events in the world around them (Potter & Wetherell, 1987). These systems of terms are referred to as interpretative repertoires. They are evident in discourse in the use of "a limited range of terms used in particular stylistic and grammatical constructions" (Potter & Wetherell, p. 149). These terms are used in different ways to construct various accounts or versions of phenomena. People
draw upon different interpretative repertoires in different situations and for different purposes. In other words, people draw upon items in their repertoires that are identified as a fit to the purposes and functions of the situation. Examining the interpretative repertoires of parents and the screener in their talk, for example, facilitated analysis of the way that talk was constructed for certain purposes. Drawing upon these resources implies that participants are choosing to construct versions through their use of particular categories and drawing upon a particular interpretative repertoire.

Analysis of linguistic resources involves looking at the specific terms and figures of speech that are associated with an interpretative repertoire, and also examining the different repertoires that are being used. For example, Potter and various colleagues (e.g., Potter & Collie, 1989; Potter & Reicher, 1987) have focussed attention upon ways in which a “community repertoire,” including particular metaphors of space (close-knit) and agency (a community ‘acts’ or ‘feels’) as well as terms, such as “friendliness” and “closeness,” were used to construct different versions of various events, such as uprisings or riots. In a disclosure session within a UNHS program, a “negative” repertoire may be linked with terms such as “normal” or “absence of” when used to construct versions of a negative re-screen result.

Another type of linguistic resource in discourse analysis is referred to as a category. When people describe people, events, or activities in their lives, they often use particular categories to suit the purposes of their discourse. Different accounts of a person, for example, can have different functions and consequences depending upon the categories from which people draw their terms. A description with the word
“frugal,” for instance, can be used to characterize a person in a way that is different from a description using the word “cheap.” In this way, different versions of the same person can be presented by the use of particular categories of terms over others.

In summary, discourse analysis is a strategy of inquiry that fits with my interpretive framework because of its emphasis upon the function, construction, versions, and action in discourse. These aspects were part of a discourse analytic approach that focused upon searching for the patterns of variability and consistency in discourse, making hypotheses about the functions of discourse in interaction, and identifying linguistic resources that participants drew upon as they talked and interacted.

Evaluating the Quality of the Findings

There are various ways in which the claims and hypotheses of a discourse analytic study can be evaluated for its quality (Potter, 1997; Potter & Wetherell, 1987). These include evaluating the findings in terms of their coherence, whether participants themselves use their language in ways that are consistent with the researchers’ claims, presence of novel problems and solutions, and fruitfulness of the findings. Examining the coherence of the findings involves looking at how the claims made account for the consistencies and variation in discourse. An important aspect of this is to examine the exceptions to patterns or “loose ends” and consider whether the claims made fit with these exceptions. If they do not fit, then readers of the report may view the analysis as incomplete and less trustworthy. Coherence also refers to the coherence of the findings with the findings of other discourse analytic
studies. For example, evaluating the quality of the study could occur by comparing the findings with those from other discourse analytic studies that pertain to disclosure of screen results.

A study's findings can also be evaluated by examining whether the participants used talk in ways that were consistent with the claims about the functions or purposes of discourse in interaction. In other words, did their talk match with the claims made? If the talk was not consistent with these claims, then the study's findings may be viewed as suspect or incomplete.

In addition, a study's findings can be evaluated in terms of whether new problems and solutions are created for the participants as a result of their use of particular linguistic resources in their talk. The concept here is that the use of particular linguistic resources over others in participants' discourse may have implications for them in their interaction, which may at times be new and problematic for them and thus require new solutions. If new problems or issues are claimed as a result of participants drawing upon particular linguistic resources, then the presence of such problems would provide further support for the analytic claims that were suggested.

The fruitfulness of a study's findings refer to the extent to which the claims or hypotheses made can generate new ways of understanding or explaining new kinds of discourse. The idea here is the extent to which the study's findings illuminate new avenues for understanding how discourse functions in different types of interactional encounters. As well, a study's claims can be evaluated by the readers of the report
and the extent to which the findings resonate with them when they are presented with both the analytic claims and the transcripts (Potter & Wetherell, 1987).

Sandelowski (1993) has argued that validity must be viewed within the context of an artful nature of qualitative research. Tesch (1990; as cited in Sandelowski) suggested how qualitative analysis is a representation. Just as an artist creates a rendition of a "reality," so does a qualitative researcher create a version of particular phenomena. Richardson (1997) also incorporated this concept into a metaphor of validity as a crystal. A crystal changes its form or shape over time and varies in its shape, geometric features, and composition. Consequently, a crystal reflects and refracts light in very different ways (multiple layers of meaning) and varies in appearance (multiple representations) depending upon one's position or stance (multiple perspectives). This crystal can be moved in many different ways such that it will refract and reflect light variably (Lincoln & Guba, 2000). Validity, from this metaphor, can be viewed as "... the interweaving of processes in the research: discovery, seeing, telling, storying, and re-presentation" within a context of multiple possible meanings, perspectives, and representations (Lincoln & Guba, p. 182).

Representation of Findings

In creating the research report, the findings are presented in such a way that readers of the report can assess the researcher's interpretations. This can be achieved by presenting a number of representative examples that pertain to the research questions along with detailed descriptions of the claims made about the
functions and consequences of particular extracts taken from the examples (Potter & Wetherell, 1987). Examples were selected as "representative" in this investigation if they pertained to the construction of screen results and also exemplified consistency, that is, shared patterns of language use and function, and variation, which included variable ways in which language was used to perform a particular function. The goal in presenting the findings was to make the reasoning process of the researcher explicit (Potter & Wetherell). By providing various excerpts from transcripts alongside detailed interpretations of particular features of these excerpts, it is possible for readers to trace the interpretive path of the analyst and choose to either agree or disagree with the interpretations. Presenting the findings and analytic claims in this way allows readers to evaluate various points of the interpretive process.

In the "Interpretive Framework" section of this chapter, descriptions were represented as versions of events that served particular functions given the interests and stake of the speaker or writer of the description. Descriptions of the findings in this study, similarly, reflect my version of events, activities, and participants. They are not "unadulterated truths" (Lincoln & Denzin, 2000, p. 1051). My goal in presenting the findings is not to speak for participants, but instead to present the findings in a way that multiple voices can be heard. This can occur by placing emphasis upon the talk that occurred in interaction and representing the findings as my version or interpretation, which is only one of many other possible interpretations. The hypotheses that I made about the functions and consequences of actions in discourse are presented with other possible interpretations. For
example, my hypotheses about the function of a particular statement of a speaker are provided with descriptions of other possible functions of the statement. Variation is a keystone of this approach.

People construct their discourse in ways to perform several different functions in many different situations. Potter and Wetherell (1990) liken the process to a ballet dancer using a particular move at any one time because it suits the immediate context; this represents only one move of many in a repertoire of divergent possibilities. In the same way, people have diverse repertoires of ways to talk and write about their lives. They use terms and figures of speech that perform functions that seem "right" or "natural" in a particular context. By providing in detail my process of interpreting discourse alongside the sources of my interpretations, I endeavoured to make clear the inferences that I made and how I arrived at certain conclusions. Furthermore, the findings of this study included a description of my process of questioning myself about my role in the findings, and particularly, how my interests influenced the inferences that I made.

Summary

In this chapter, an interpretive framework with influences from both social constructionism and the discursive action model was described. This interpretive framework drove the discourse analytic strategy used for interpreting and analyzing the data. The study involved 5 family cases where data were obtained through observation of parents and the screener as they discussed the results of re-
screening, as well as follow-up interviews in order to further explore their
descriptions and accounts of the re-screen results.
CHAPTER FOUR: ANALYSIS OF DISCOURSES

Overview

The focus of this chapter is upon the participants' accounts of the screen results, ways in which these accounts were constructed, and my hypotheses concerning the interpretative resources that participants may have drawn upon to construct their accounts. Five family cases were examined that included 14 interactions consisting of 4 screener-parent interactions, 5 researcher-parent interactions, and 5 researcher-screener interactions. One screener was involved in each of the screening sessions with the 5 families. The screener-parent interactions were between 12 and 30 minutes long, the researcher-parent interactions ranged from 30 to 40 minutes long, and the researcher-screener interactions were 10 to 75 minutes in length.

The focus of analysis was the talk of these interactions; however, I also noted the non-verbal behaviours during the brief time of the appointment when the infant's hearing was being screened (see Appendixes K to R). Specifically, I noted the parent's and screener's physical positions, movements, and facial expressions when the screener was inserting the probe tip into the infant's ear, preparing the screen device for the screen, and waiting for the result. This was typically the part of the appointment where talk was not at the center of the interaction and, yet, I believe a meaning of the wait time was being constructed.

Analysis involved the examination of the ways in which accounts of screen results were constructed. To better understand the construction of "pass" and "fail"
within the screening context, the transcripts were coded to identify aspects of the interactions where the terms "pass," "did not pass," and "fail" were used explicitly and also turns in the interactions when I interpreted that a version of a result was being presented rather than overtly stated. Before describing my interpretations of the talk, I will describe the organization of the chapter, the setting for the interactions, and also provide participant descriptions. To protect the anonymity of the participants, pseudonyms were used to refer to the screener, the parents, and the infants.

Organization of the Chapter

In this chapter, five family cases are described. All five cases have been analyzed using the discourse analytic method described in Chapter Three. In order to illustrate the outcomes of my analysis, one family case was written up in depth with several example extracts used as a basis for discussion. The remaining four family cases were analyzed in a similar manner; however, their write-up in this chapter was limited to the identification of similarities and differences to the single selected family case. Focus upon a single family case allowed me to show the depth and breadth of the analysis undertaken, yet, also, avoid any redundancy that would arise if each family case was discussed in depth. The family case under focus in this chapter was selected because it included accounts that highlighted the variability and inconsistencies of language use, which are the hallmarks of this discourse analytic approach.
The Setting for the Interactions

Each interaction took place within a room in the Audiology Department at a Western Canadian Children's Hospital (see Figure 4.1).

![The setting of the interactions.](image.png)

*Figure 4.1. The setting of the interactions.*

The room was small and carpeted, with painted white walls, one door, and one large window with venetian blinds, which was located directly across from the door. In the center of the room was a round, white-topped table with four blue-cushioned chairs seated around it. In one corner, there was a computer monitor on a black cart with wheels with a bottle of "Purell" hand sanitizer on one of its shelves. The walls were bare except for a calendar that was posted up on the wall adjacent to the door and a wallpaper border near the top of each wall. My video camera was set up in the corner opposite the computer monitor and nearest to the window. I had also placed in the room a small television on a cart that was used to view the
videotaped footage of the screening session with parents and the screener during the follow-up interviews. There were stuffed toys, a Kleenex box, and a few sheets of loose-leaf paper on the window sill. On one wall adjacent to the window, there was a large brown plastic magazine/paper rack with several rows of photocopied sheets of paper in the slots.

Given the small size of the room, it appeared to be designed for meetings involving a small group of three to four people. My placement of the audio-video equipment in the room also further decreased the amount of space available. The room was located directly across from the main entry door to the department and was near a waiting area, which included seating and a small play area for children. At times during the screening sessions and follow-up interviews, I was able to hear the voices of children and adults in the waiting area. The room seemed centered upon adult interaction. All of the furniture in the room was adult sized with no child-sized chairs or tables and very few toys. The furniture captured much of the space in the room. The presence of the round table and four chairs seemed conducive to discussion. The upholstery on the chairs and the carpeting on the floor helped to “soften” the room amidst the smooth, cool surfaces of the tabletop and the bareness of the walls. The placement of a few children’s toys on the window sill also helped to soften the space. Their placement on the periphery of the room suggested to me that children were not the main participants involved in the interactions in the room.

If I were a parent who was entering this room for the first time, the room would feel impersonal yet non-threatening. The room did not feel intimidating or overwhelming, but it also did not feel welcoming. The room appeared as if it were
meant for consultations or meetings and did not seem particularly clinical in appearance, because there were no medical instruments or apparatus in view. The size of the room was small and the temperature was comfortable. The room would feel cramped if I were entering the room with a baby stroller or carrier, because of the presence of the table and four chairs in the center of the room, as well as my audio-visual equipment in two opposite corners of the room. The presence of the video camera would at first glance make me feel slightly uneasy and self-conscious. The room did not exude to me a sense of warmth and personality. Although the chairs were padded and upholstered, which contributed to their comfort level, the furniture was more office-like in appearance and meant for institutional settings or work and office environments. The institutional feel of the room also stemmed from the use of fluorescent lighting. Although there was a wallpaper border with a children's print depicted on it, the walls appeared bare and stark. It felt very neutral with no features that would pique my interest. There were some small toys in view on the window sill but none that would be immediately accessible to parents or their children. As a parent, I would not feel comfortable touching these toys, because their placement on the window sill would suggest to me that they were meant for the hospital personnel to access when needed rather than toys meant for families to access on their own. Overall, although the room would not make me feel anxious or uneasy, I would also not feel entirely comfortable.
Description of the Researcher and the Participants

Lori: The Screener

Lori was a technician in the Audiology Department at a Western Canadian Children's Hospital. She assisted in various departmental activities. Assisting with the provincial UNHS project was only one of her roles in the department. Typically, one day a week was devoted to the screening of infants who are at the second stage of screening in the UNHS program. The Audiology Coordinator in the program was Lori's primary contact with the UNHS program. Through telephone and e-mail contact, Lori learned about her screening appointments for the week. Lori received documentation each week from the program's Audiology Coordinator that included the date of the appointment, names of parents, name of the infant, results from in-hospital screen, and any additional notes that were viewed as relevant to the appointment (e.g., high risk factors).

Lori fulfilled certain requirements that were associated with being a "screener" and also fulfilled requirements that were associated with working as a staff member in the hospital. Lori wore casual, yet professional clothing rather than a uniform during the screening appointments. She also wore a badge with picture identification. As part of hospital staff she made sure that the parent signed the necessary forms, such as the hospital consent form, and that the parent had obtained a blue hospital card. As the screener, she knew the name of the parent, name of the child, the family's contact information, and the results of the first in-hospital screen. Lori had approximately half an hour to spend with parents and a
certain number of specific tasks that she needed to complete in that time. She needed to ensure that the necessary consent forms were signed, that parents had obtained a blue hospital card, that she described the screen to the parent, that she prepared the screening device and the infant for the screening, that she obtained the results, communicated the results to the parents, provided the parent with information regarding developmental milestones, provided the parent with a contact for the program if concerns arose, and forwarded the results to the necessary people, including the family physician and the screening program data manager.

With regard to personal characteristics, Lori reported being a parent of one child. We did not discuss her age; however, she appeared to be over the age of 30 years old.

In this investigation, Lori and I both had a schedule to adhere to in order to have the necessary time available for the screening session and the follow-up interviews. Each day that I was present at the hospital to collect data, there were typically two to three half-hour screening appointments scheduled. The schedule allotted time for the screening appointments and, also, the follow-up interviews with the screener and the parents immediately afterward. This schedule represented a change from Lori's typically scheduled day of 8 to 10 screening appointments. A screening appointment could vary in length from 15 minutes to half an hour, depending upon the state of the baby and his or her readiness for the screen. In some cases when the infant was not in a calm or quiet state for the screen, additional time was needed for parents to soothe their infants prior to the screen. If it was not possible to screen the infant, then it was possible for the appointment to be re-scheduled.
The Parents

The parent participants consisted of 5 mothers between the ages of 20 to 26 years old. One mother chose not to disclose her age. Four of the five mothers reported to be part of a two-parent household, whereas one mother reported that she was currently separated from her partner. The reported household income for the parents was between the ranges of $15,000 to $25,000 and $45,000 to $55,000 with three parents reporting household incomes in the lower range and two parents with incomes in the upper range. At the time of data collection, the number of children in each family ranged between one and three, with two of the five mothers being first-time parents (one of these two mothers was pregnant with her second child). All of the mothers described their interactions with the provincial UNHS project as their first contact with a newborn hearing screening program, and reported not knowing about newborn hearing screening prior to the time that the Stage One Screen was conducted in the hospital.

Brenda: The Researcher

I am a doctoral candidate in the Department of Educational and Counselling Psychology, and Special Education at the University of British Columbia. I hold a Bachelor of Science degree with a specialization in Psychology and a Master of Education degree in Deafness Studies Education from the University of Alberta. I entered the screening context with a lens rooted in my experiences as a doctoral candidate with a focus upon special education. I was not an audiologist, clinician, or a screener and not affiliated with the provincial UNHS project; therefore, I was not very familiar with the technology and protocols of a newborn hearing screening
program. What I understood about UNHS was primarily based upon my reading of the literature, rather than direct, first-hand experiences.

My previous research experiences focussed upon families of children who had been diagnosed with hearing loss rather than families who were experiencing the screening process for the first time. My Master's thesis, "Parents' appraisals of diagnosis of deafness in hearing parents of deaf children," was a qualitative study aimed at investigating the social-emotional needs of parents whose children were diagnosed with hearing loss. I was interested in ways to provide social and emotional support to parents of children who were deaf and hard of hearing. My particular interest was in family-centered approaches in early intervention programs where professionals from different disciplines collaboratively provided services to children with hearing loss. My previous experiences and research interests influenced the questions that I asked the participants in this investigation, as well as my interpretation of the interactions. Throughout this chapter, I have described some of my reactions to participating in the UNHS context as a researcher in sections entitled "Researcher's Process."

In the sections that follow, the 14 interactions analyzed in this investigation are discussed within the context of 5 family cases. In each case excerpts of the talk of the interactions are included alongside my interpretations. In the excerpts of talk, I have included the symbols from the Jeffersonian (1984, 1985) transcription system. For example, I included underlined text in the transcripts where I interpreted emphasis of an utterance, colons (i.e., :) to indicate elongation of sounds in talk, an up arrow (i.e., ↑) to indicate rising intonation, a down arrow (i.e., ↓) to indicate falling
intonation, and capital letters to indicate utterances presented in increased volume from surrounding talk. The symbols are not essential for reading the excerpts but may be of benefit to readers interested in my approach to transcription. For a complete description of the transcription symbols used in the present study, please see Appendix I.

Family Case 1: Janice and Jenny

Janice was 20 years old and the mother of two children. Her daughter, Jenny, whose hearing was screened, was 3 weeks old and her son was 4 years old. Janice reported a family household income in the range of $15,000 to $25,000. At the time of the screening, Janice was separated from the children's father and living with her children at her sister's family residence. After receiving a refer result at Stage One for both ears, Janice and Jenny returned for the Stage Two screen three weeks later. Jenny passed the outpatient screen at Stage Two.

The Screening Interaction

Upon seeing each other in the room, Lori and Janice exchanged greetings and introductions. They each took a seat around the table. Janice was holding her infant, Jenny, in her arms. After a few pleasantries were exchanged about the weather and the coincidence of meeting each other in the elevator, Lori described the procedures and objectives of the Stage Two screen and also inquired about Janice's feelings concerning the Stage One screen in the hospital. Janice communicated concerns about her child's hearing and Jenny's lack of responsiveness to sounds occurring around her.
Before conducting the Stage Two screen, Lori asked Janice to sign a hospital consent form. Once the signature was acquired, the interaction centered upon the screening procedures, where Lori prepared the screening device and also assisted Janice in positioning Jenny for the screen. Lori provided Janice with some direction about the optimal state of the child for screening (i.e., sleeping) and some direction about physical positioning. Janice showed some uncertainty concerning the placement of her infant during the screen and looked for guidance from Lori. Once Jenny was positioned appropriately in Janice's arms, Lori attempted to place the probe tip of the screening device into Jenny's ear. At this point, the interaction switched from screener-parent interaction to screener-infant interaction. Lori used a quiet, gentle, and high-pitched voice with Jenny as she spoke directly to and in close proximity of Jenny.

Once the probe tip was inserted into Jenny's left ear, Lori and Janice waited for the result. Once available, the device would display on its monitor the result of the screen. Approximately 20 seconds after the probe tip had been inserted in Jenny's ear, Lori informed Janice that Jenny had passed the screen in one ear. Lori then screened Jenny's right ear where a second pass result was obtained. Lori provided an explanation for Jenny's refer result at Stage One in the hospital (i.e., vernix in ear). Lori explained what the results meant in terms of parent and child -- that Jenny was hearing Janice's voice. She also provided Janice with a description of developmental milestones for speech and language and informed Janice that if she was ever concerned about Jenny's hearing, then she could contact the
program's audiologist at any time. Lori indicated that there was no need for further screening or involvement with the UNHS program.

Lori closed the meeting by obtaining information about Jenny's family doctor, to whom the results would be forwarded. After identification of the family doctor, Lori left the room temporarily to stamp the letter for the doctor using Janice's blue hospital card. When Lori returned, Lori closed the session by asking Janice if she had any other questions. Lori inputted the screen result information into the computer, which would eventually be sent to the UNHS program's data manager for data entry. The session ended with Lori and Janice saying goodbye to each other with no indications that they would see one another again in the future. The screening interaction was 12 minutes in length.

Researcher's Process: I made contact with each parent prior to the screening appointment in order to discuss the research project and the consent forms. The time I spent with each parent before the screening appointment provided me with an opportunity to learn more about parents and their families and to establish rapport with each family. After my short time talking with parents about the research project, I contacted Lori to let her know that the parent and infant were ready for the screening. Once the screening began, I shifted from a participant in the talk of the interaction to an observer. I felt it was necessary for me to be as unobtrusive as possible. It felt awkward moving from an interaction where I had just been talking to the parents one-on-one, to one where I was in the room but not expected to be an active, vocal participant in the interaction. I was not addressed directly, nor did I put forth any statements during the screening session.
During the screening session, Janice expressed great concern about her child's ability to hear. Lori gave Janice opportunities to share her concerns and describe some of her experiences and feelings. I felt that Lori wanted to indicate to Janice that her concerns were being heard by acknowledging each of Janice's responses. What struck me, however, was that Lori did not provide any comments, explanations, or replies regarding Janice's concerns. In this way, Janice's responses were acknowledged but not necessarily addressed. I felt that there was more that Janice wanted to share and more that she wanted to know. After observing the session and reading the transcript, I felt that there was a missing piece from the interaction, an unanswered question or statements left unspoken.

Janice appeared uncertain about aspects of the screening process during the appointment. At times, she looked for guidance from Lori. For example, she checked in with Lori about Jenny's positioning for the screen and also checked with Lori about the "correct" pronunciation of her family doctor's name. In addition, in one sequence of the interaction, Janice was waiting for the screen result of the first ear. Her face expressed a look of worry and concern as she was waiting for the result. I wondered if Janice may have expected the result to be evident sooner. Lori had not provided any information to Janice about the length of time needed before a result would be visible on the screening monitor. Janice may have appeared anxious and uncertain, because the time taken for a result to be obtained may have exceeded her expectations. I also realized that Lori did not provide details about the screening device and how it was used. She did not provide a description of the plan for the session, such as which ear would be screened first, or what she would be looking for
on the screening device monitor. I wondered if these details were ones that Lori chose not to discuss or ones she simply had not considered sharing with Janice. The goals of my analysis were to continue asking myself why I was interpreting the interaction in this way. What aspects of the accounts have influenced my interpretations and hypotheses? How have the accounts been constructed to influence my reading of the text in this way?

Non-verbal behaviours during the wait period. The times indicated in the tables below (Tables 4.1 and 4.2) were selected for analyses, because they marked times when I noted a change of the parent’s or screener’s behaviour. For example, if Lori leaned forward to insert the probe tip into Jenny’s ear, I noted the lean forward as a change in behaviour and, therefore, noted the time as part of my analysis. Due to space limitations, I have included in this chapter only excerpts of the data that correspond to the direction of the eye gaze of Lori and the parents. For a full description of the physical behaviours during the screening portions of the appointments, please refer to the tables in Appendixes K to R. I have highlighted eye gaze in my analysis, because eye gaze shifts represented the most frequent and visible behaviour changes in the interaction. The eyes have been the subject of much investigation with respect to their role in the expression of emotions and the performance of social functions in interaction (Ekman, 1975; Ekman et al., 1999). In the present investigation, it was the eyes that seemed to communicate to me the most information about how each person constructed the wait period. It communicated to me where the focus of attention was and allowed me to hypothesize what purposes this focus of attention had.
I constructed the wait period as the time during the interaction when the parent and the screener appeared to be waiting for the result to display on the screen device monitor. I estimated the start time of the wait period to occur when Lori picked up the hand-held device and was holding it in front of her. I interpreted these behaviours as part of an action, which I coded as "Preparing the screen device." I interpreted the end of the wait period to occur when 1) Lori gazed at the screen device for the last time just before the results were communicated to the parent, and 2) Lori began to remove the probe tip from the infant's ear. I coded these actions as "Result obtained" because the behaviours signified to me a time when Lori could turn her attention away from the screen device, because a result was available to her on the screen device monitor. After a result was obtained, Lori began to perform other tasks, such as communicate the result to the parent and remove the probe tip from the infant's ear.

During this sequence of the interaction, Lori and Janice were seated on one side of the round table and angled slightly toward each other. They were seated approximately one-and-a-half feet apart. During the screening of Jenny's left ear, Lori held the screen device in her right hand and used her left hand to hold one end of the device's cable near to Jenny's ear.
Table 4.1

*Eye Gaze for Left Ear Screen*

<table>
<thead>
<tr>
<th>Counter</th>
<th>Lori's Eye Gaze</th>
<th>Janice's Eye Gaze</th>
<th>Action&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:45</td>
<td>Jenny</td>
<td>Jenny</td>
<td>Insert probe tip (L)</td>
</tr>
<tr>
<td>4:52</td>
<td>Jenny</td>
<td>Jenny</td>
<td>Hold probe tip (L)</td>
</tr>
<tr>
<td>4:53</td>
<td>Screen device</td>
<td>Jenny</td>
<td>Prepare screen device (L)</td>
</tr>
<tr>
<td>4:56</td>
<td>Screen device</td>
<td>Screen device</td>
<td>Wait for result (L,J)</td>
</tr>
<tr>
<td>4:57</td>
<td>Screen device</td>
<td>Jenny</td>
<td>Wait for result (L,J)</td>
</tr>
<tr>
<td>4:58</td>
<td>Screen device</td>
<td>Screen device</td>
<td>Wait for result (L,J)</td>
</tr>
<tr>
<td>5:00</td>
<td>Jenny</td>
<td>Jenny</td>
<td>Wait for result (L,J)</td>
</tr>
<tr>
<td>5:01</td>
<td>Screen device</td>
<td>Jenny</td>
<td>Wait for result (L,J)</td>
</tr>
<tr>
<td>5:05</td>
<td>Screen device</td>
<td>Lori</td>
<td>Wait for result (L,J)</td>
</tr>
<tr>
<td>5:07</td>
<td>Screen device</td>
<td>Screen device</td>
<td>Wait for result (L,J)</td>
</tr>
<tr>
<td>5:14</td>
<td>Jenny</td>
<td>Jenny</td>
<td>Result obtained (L)</td>
</tr>
<tr>
<td>5:16</td>
<td>Jenny</td>
<td>Jenny</td>
<td>Communication of result (L)</td>
</tr>
</tbody>
</table>

<sup>a</sup>Initials for Lori and Janice (i.e., L and J) indicate the participant(s) with whom I associated the particular action.

During the screening session, Lori had placed a probe tip into Jenny's ear, then switched to a differently sized probe tip. Once in position, Lori's gaze was upon the screen device as she waited for the result to display on the monitor. Janice's
gaze shifted between Jenny, Lori, and the screen device. She appeared anxious as she waited for the result -- a wide-eyed, un-blinking look on her face and a rapid shift in gaze from Lori to the screen device at the 5:05 mark of the video clip. Janice appeared to be searching for cues about the nature of the result, first on Lori's face, then by looking directly at the display monitor of the screen device at the 5:07 mark. As I viewed the video footage, I was struck by how Janice experienced the waiting period. At first glance in the grand sequence of the interaction, the waiting period was brief, approximately 20 seconds long, but when viewed from Janice's perspective, these seconds seemed to endure. Lori, the screener, was focused primarily upon the screen device. Lori's eye gaze upon the screen device appeared to occur so that she would be immediately aware of when a result had registered on the screen device. In fact, while reviewing the videotaped footage of the interaction with Lori afterward, Lori commented that she had not realized Janice had been expressing behaviours of anxiety while waiting for the result.

To screen Jenny's right ear, Lori attempted to insert a probe tip and obtain a result. During this first attempt, Lori did not appear to be satisfied with the positioning of the probe tip in Jenny's ear. The probe tip was not staying in position. Lori adjusted the probe tip and tried to screen Jenny's ear once again. The actions below occurred during Lori's second attempt to obtain the screen result for Jenny's right ear.
Table 4.2

Eye Gaze for Right Ear Screen

<table>
<thead>
<tr>
<th>Counter</th>
<th>Lori’s Eye Gaze</th>
<th>Janice’s Eye Gaze</th>
<th>Action&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:02</td>
<td>Jenny</td>
<td>(Jenny)</td>
<td>Insert probe tip (L)</td>
</tr>
<tr>
<td>6:06</td>
<td>Screen device</td>
<td>(Jenny)</td>
<td>Prepare screen device (L)</td>
</tr>
<tr>
<td>6:08</td>
<td>Jenny</td>
<td>(Jenny)</td>
<td>Wait for result (L,J)</td>
</tr>
<tr>
<td>6:09</td>
<td>Screen device</td>
<td>(Jenny)</td>
<td>Wait for result (L,J)</td>
</tr>
<tr>
<td>6:11</td>
<td>Jenny</td>
<td>(Jenny)</td>
<td>Wait for result (L,J)</td>
</tr>
<tr>
<td>6:12</td>
<td>Screen device</td>
<td>(Jenny)</td>
<td>Wait for result (L,J)</td>
</tr>
<tr>
<td>6:22</td>
<td>Screen device</td>
<td>(Jenny)</td>
<td>Wait for result (L,J)</td>
</tr>
<tr>
<td>6:23</td>
<td>Jenny</td>
<td>(Jenny)</td>
<td>Wait for result (L,J)</td>
</tr>
<tr>
<td>6:24</td>
<td>Screen device</td>
<td>(Jenny)</td>
<td>Wait for result (L,J)</td>
</tr>
<tr>
<td>6:25</td>
<td>Jenny</td>
<td>(Jenny)</td>
<td>Result obtained (L)</td>
</tr>
<tr>
<td>6:27</td>
<td>Jenny</td>
<td>(Jenny)</td>
<td>Communication of result (L)</td>
</tr>
</tbody>
</table>

Note. Brackets around text indicate instances when it was difficult for me to determine the precise direction of the eye gaze. I have entered the items in brackets as cautious hypotheses of eye gaze, which were based on my interpretation of other observable physical behaviours (e.g., head orientation, body lean, etc.).

<sup>a</sup>Initials for Lori and Janice (i.e., L and J) indicate the participant(s) with whom I associated the particular action.
The wait period for screening Jenny's right ear was approximately 17 seconds long. It was difficult to observe Janice's facial expression during the screening of Jenny's right ear. Her hair was shielding most of her face. Her head position appeared to remain tilted downward toward Jenny's face. I interpreted Janice's consistency in her head position to indicate consistent eye gaze towards Jenny. In comparison to the screening of Jenny's left ear, Lori appeared to shift her gaze much more frequently between the screen device and Jenny. I hypothesized that more frequent eye gaze to Jenny during the screen may have been associated with the difficulties that Lori had initially had in inserting the probe tip into Jenny's right ear and getting a "seal" once the appropriately sized probe tip was inserted. In comparison to the screening of Jenny's left ear, Lori had not experienced similar difficulty in inserting the probe tip and holding it in position, and, therefore, was able to maintain her gaze on the screen device rather than shifting her gaze from screen device to Jenny. Lori's actions of shifting her gaze from screen device to Jenny during the second screen attempt on Jenny's right ear may have occurred to allow her to monitor the position of the probe tip in Jenny's ear. Lori may have been trying to ensure that the probe tip stayed in the proper position until a result was obtained.

Lori's focus in this part of the interaction was on making sure that a result was obtained -- that the appropriately-sized probe tip was placed in the ear, that the tip stayed in the proper position, and that Lori noted the result as soon as it was available to her. On the other hand, in this interaction, I believed Janice constructed a version where the waiting period was linked with her child's hearing status. Was her child able to hear? It was also possible that Janice was concerned while waiting
for the screen result because she had expected a result to be obtained very quickly, perhaps, instantaneously. Her face appeared more concerned and uncertain, as time progressed. I wondered how this period of time may have been experienced if, beforehand, Lori had provided Janice a rough estimate of the time needed to obtain a result. Would this have affected Janice's reaction to know when she could expect to obtain the result? In these parts of the interaction, it became evident to me how a short 20-second period of time within the interaction was very differently constructed.

Janice's account of the screen. During the screening session between Janice and Lori, Janice indicated concern that her infant was not responding to various sounds occurring in her environment. Janice constructed a version where the screen result obtained from Stage One was associated with Jenny's observable physical behaviours in response to sounds. Jenny's lack of response was associated with behaviours that were visible to Janice, such as looking at sources of sounds (e.g., rattles, her father's voice) or startling or jumping in response to a loud sound (e.g., barking dog). In Extract 1, Janice had just begun to describe to Lori her reasons for being concerned about her infant's hearing.

1 J: [Cause] she never responded. My son responded like right away. (J turns head upward gazing into space in front of her)
L: Okay.
J: So she never responded. (J laughs softly)
L: [Okay]
J: [(indistinguishable)]
L: In what way?: (L continues to look at J)
J: ((J looks over to L then back towards infant)) Um...

L: To loud noises, you mean or to your voice?

J: Uh, anything. She just doesn't respond so... ((J looks up at L))

Janice described her feelings of anxiety as stemming from her infant being unresponsive to sounds in her environment. Janice stated, "she (Jenny) never responded" or "she just doesn't respond." The terms used in these statements were very general and did not specify the type of response or the sound sources that were expected to elicit the response. By not providing particular instances or examples of situations in the initial parts of her description, Janice was able to communicate the extremity and severity of the situation, because the description presented Jenny's lack of responsiveness as occurring across contexts rather than limited to a few specific circumstances. Furthermore, the degree of Jenny's lack of responsiveness sounded more extensive with the presence of extreme case formulations in her description, such as "never" and "anything."

According to Pomerantz (1986), extreme case formulations include words and terms, such as "everyone," "forever," "every time," and "no time," and are included in descriptions to legitimate claims. Extreme case formulations can be incorporated in descriptions to propose that a particular phenomenon can be attributed to within an object or person, rather than to the circumstances of the setting (Pomerantz). In this extract, the word "never" was a device that indicated that at no time whatsoever did Jenny respond. Regardless of whether the sound was a loud noise or a voice,
Jenny’s reaction was the same. Jenny did not respond to any sounds at any time. By using the words “anything” and “never,” Janice produced a description where the cause of Jenny’s non-responsiveness could not be attributed to a particular setting or set of circumstances. According to Janice, no matter what the particular circumstances were, Jenny did not respond. In this extract, then, Janice was constructing an account where the cause of Jenny’s non-responsiveness was attributed to a quality of Jenny herself (e.g., her ability to hear).

Janice also included in her description references to the behaviours of her first child. In this way, Janice added credibility to her claims by stating that she had another child and, therefore, already had parenting experience. She also strengthened her claim by commenting upon the immediate responsiveness of her first child to sounds in his environment. Through her descriptions, she was able to make known to the screener that she was not a first-time mother and that she had experience and knowledge with which to base her claims. In the following extract, Janice elaborated upon her description where she compared the responsiveness of her son and Jenny to surrounding sounds.

2  J: Like even ((raises hand with palm up - slightly upwards in front of her)) I take a couple of rattles and shake 'em and she doesn't ((slight head shake)) respond to them. ((looks at L, shakes her right hand up and down then looks back at infant))
L: [°Okay. Okay°] ((puts chin into left hand, looks at J and leans in slightly on table))
J: [So...]
L: And you - you remember your son doing that =
J: Oh yeah. ((looks up at L and nods head slightly))
L: =At a young age.
J: Oh yeah. ((nods head slightly)) Like the day he came home.
He was just... ((raises and waves her right hand in the air and gazes into space in front of her))
L: Okay... ((slight nod of head))
J: He was looking at everything you know. ((looks up in front of her and waves right hand from side to side in front of her))

In this extract, Lori asked the question “And you - you remember your son doing that at a young age?,” which focused the talk of the interaction on two new concepts: memory and age. Lori could have simply asked Janice, “And your son did that as well?” where the concepts of memory and age were not introduced into the interaction. With her question, Lori introduced plausible factors (i.e., Janice’s memory, her son’s age) that would influence the credibility of Janice’s description. Was Janice remembering the behaviours of her son accurately? Was her son indeed a newborn when she observed these behaviours? An alternative version that Lori presented with her question was that Janice’s son did react in response to sounds, such as a rattle, but that perhaps this occurred when he was older than Jenny, or that Janice was remembering a time when her son was older and reacting to sounds rather than a time when he was a newborn.
In response to Lori's question, Janice constructed an account that countered Lori's version. Janice described her son "looking at everything" "the day he came home." To counter a version that her son was at an older age when she observed his behaviours, Janice described that she recognized his responsiveness "the day he came home." In other words, Janice noticed his responsiveness to sounds soon after his birth, when he was his youngest possible age. This description also countered a version that Janice may not have remembered the events accurately by indicating that Janice could remember her son's behaviours as far back as the day her son returned home from the hospital.

Furthermore, by using the extreme case formulation "everything" in the phrase "looking at everything," Janice provided a description where, without exception, her son responded to sounds occurring around him. In this way, Janice was able to emphasize that it was her son who was able to respond regardless of the type of sound. The qualities and characteristics of the sources of the sounds became of less significance. Instead, emphasis was placed upon her son and his ability to respond. This idea of responsiveness was central to Janice's claims about her son and her daughter. She was able to indicate the severity of Jenny's behaviours by contrasting the account of her daughter's behaviours with another involving her son's behaviours. Janice's description in Extract 2 provided the most extreme contrast to her description of Jenny in Extract 1, where instead of responding to "everything" as her son had, Jenny did not respond to "anything."

In a subsequent sequence of interactions during the screening session (see Extract 3), Janice further supported her claims that Jenny's lack of responsiveness
to surrounding sounds by including a specific example. Janice provided the example within the context of a story regarding Jenny's reaction to a family dog barking.

J: I have a... Well my parents have my dog. (looking into space, J waves hand in air in front of her, brushes hair back and looks at space in front of her then at infant) A big Shepherd and she was over there one day and the dog barks once a cat or something walks by. (looks up at L)

L: Mmm hmmm. (nods head)

J: And my son jumped (looking into space in front of her) when he barked and she doesn't jump (head shake, looking at screener). She doesn't [move]...

L: [Okay].

J: Not a [muscle] so. (looks back at infant)

L: °[Okay]. Alright.° Um <were you with her in the hospital when they checked her?>

By presenting a narrative at this point of her description, Janice was able to provide support and credibility to her previous claim that her child was unresponsive by including other people and potential witnesses to her version of events, such as her parents, their dog, and her son, within the structure of a specific example. Janice set up her story with a description of her parents' dog. This description included reference to the large size of the dog as well as the particular type of dog, a German Shepherd. The size and breed of the dog may have been included in the narrative to render an image of the dog and a sense for the loudness of its bark -- the implication being that a large-sized German Shepherd was likely to have a loud bark. Janice
continued her story by describing her son's startle response to the dog's bark, which was contrasted with Jenny's complete lack of responsiveness. Janice may have wanted to communicate this story to Lori to indicate that her sense of worry was associated with Jenny's non-responsive behaviours to diverse sounds in her environment, including the sound of a loud barking dog. In this way, the screen result obtained from Stage One had been associated with a concern for Jenny's physical responses to sounds in her environment. A hearing loss was deemed possible because the infant was not behaving in a manner consistent with her expectations: She did not move in response to any types of sounds, and she did not respond in a manner similar to what she had experienced with her first child.

Lori's account of the screen. In contrast to Janice, the screener, Lori, constructed within the interaction a version of a screen result that was linked to the child's physical response that was not visible to the human eye. In Lori's version a healthy inner ear was associated with an "emission" or "echo."

```
L: What we're looking for. >We're gonna put some sounds ((L removes palm from chin and places on table in front of her. J is looking at L)) in her ears< and we're looking for -- >it's called an emission but it's< like an ↑e:cho:=
J: Okay. ((nods her head))
L: =>In response to that sound.< ((J looks back at infant))
And it comes from her inner ear.
J: Okay. ((looks up at L, nods, looks back at infant))
L: And what we know about the inner ear is that when we hear that echo coming back out,((J looks up at L)) it's healthy. It
means that it's working properly and that she's hearing the sound.

At this point of the interaction, Lori described an "emission." Lori appeared to have anticipated Janice's lack of familiarity with the word "emission," because she immediately followed her introduction of the term with a metaphor. An emission could be likened to an "echo." Interestingly, Lori cited the metaphor but did not describe or explain it in additional detail. She did not describe ways in which an emission was like an echo. Lori may have deemed an echo as more accessible to the parent than the more technical term "emission," because an echo may be a widely known entity and linked with a commonly-held experience of hearing an echo. If the word "echo" was viewed as a term that parents could more easily understand, then why would Lori use the term "emission" at all? Why not simply describe it as an echo? Lori may have used the more technical term "emission" in order to indicate to the parent that she did indeed have specialized knowledge related to the hearing screening and, in particular, the functions of the screening device. Lori was able to identify with a specific term what the device was capable of detecting. In this way, Janice may view the screening device as a more valid and credible device for hearing screening, because it had specific components that could be labeled with technical terms. As well, Janice may view Lori as a credible source of information because she appeared to know the components of the device, its technical label, and, also, was able to describe it in lay terms.
What are possible ways that parents may construct the term "emission?" The Merriam-Webster Online Dictionary\(^3\) (Merriam-Webster, Inc., 2004) included a definition of an emission as "something set forth by emitting" where "emitting" was defined as "to throw or give off or out." The term "emission" has been commonly used to describe an entity being sent out from a particular source, such as gasoline emissions from an automobile. In the case of an automobile, the emission can be visible or invisible to the human eye. Lori, however, immediately presented a version of an emission that countered a version of a visible emission by using the metaphor of an "echo." In this context, an "echo," defined in Merriam-Webster Online Dictionary as "the repetition of a sound caused by repetition of sound waves" could be linked to the hearing screening context through its connections with sound. An echo was also not visible to the human eye, which was consistent with the oto-acoustic emission that was detected in the screening context.

My understanding was that the emission that could be detected during the screen was indicative of a physiologic response -- a response that would not be readily apparent to parents either visibly or audibly. What was not clear from Lori's version was how the echo would be detected and who would be able to detect it. Would the screener be the only one who could see that the echo was being detected? Would the parent be able to hear this echo as well? Would the parent be able to see her infant respond to the echo? Was it necessary to be quiet while the

\(^3\) Dictionary definitions are discussed in this context to indicate commonly-held constructions of terms in North America. Dictionary definitions are also constructions and versions of objects, events, and actions that have been encountered, identified, and labeled within a particular socio-cultural-political context.
screen was being conducted? Was it appropriate to talk during the screening of each ear? If I were a parent who had a question, would it be appropriate for me to ask questions or make comments during the screen itself?

Lori constructed versions of a “pass” result that were associated with 1) the detection of an echo at three different pitches, 2) a healthy functioning inner ear, and 3) the infant’s ability to hear the sounds of speech. Lori provided the description in Extract 5 before the screening was conducted. Lori put forth the descriptions in Extracts 6 and 7 after the screen result was obtained from each ear.

5  L: And what we know about the inner ear is that when we hear that echo coming back out, ((J looks up at L)) it's healthy. It means that it's working properly and that she's hearing the sound.

J: Okay. ((looks down at infant and nods head))

L: Okay. And we test at three different pitches or tones. ((J looks up at L))

6  L: “Okay good.” Alright. We're- We're seeing that echo today coming out of that ear so that's a good /siːɡn/.

7  L: So: (hhh) you know we know: that she's hearing your voice. The sounds that are you know important for <speech perception.>

From these extracts, “pass” has been constructed as a reflection of health: “it’s healthy,” “it’s working properly.” It was referring to the status of a biological organ. “Pass” was also being used to refer to the current behavioural capabilities of
the infant – “she’s hearing your voice.” The term “pass” also was associated with the reading obtained from the screening device. The device was described as being able to detect an echo from the inner ear: A pass was an echo that was detected or obtained.

In Extracts 5, 6, and 7, Lori used terms such as “We’re seeing...,” She’s hearing...” and “We know...” to indicate her degree of certainty concerning Jenny’s current hearing ability. She did not mark her utterances with doubt by including such terms as “may,” “maybe,” or “can.” Lori provided the descriptions with great confidence and certainty. The results were presented in a manner that suggested that they were conclusive.

In Extract 8, Lori described the nature of the screen to Janice, including what the screen was, how it worked, what it meant.

8  L: What we're looking for. >We're gonna put some sounds ((L removes palm from chin and places on table in front of her. J is looking at L)) in her ears< and we're looking for -- >it's called an emission but it's< like an e:cho:=
J: Okay. ((nods her head))
L: =>In response to that sound.< ((J looks back at infant))
And it comes from her inner ear.
J: Okay. ((looks up at L, nods, looks back at infant))
L: And what we know about the inner ear is that when we hear that echo coming back out,((J looks up at L)) it's healthy. It means that it's working properly and that she's hearing the sound.
J: Okay. ((looks down at infant and nods head))
L: Okay. And we test at three different pitches or tones. ((J looks up at L))
J: Okay. ((nods head, looks back at infant))
L: Okay. And that's why we... you know, it is just a screening. We're not testing at <every (.) conceivable, audible sound.> ((leans back and looks in front of her, shakes her left hand in air up and down, takes paper off table with pen in left hand, closes green folder with right hand, looks at J and leans in slightly))
J: Okay. ((nods, looks up at L then back at infant))
L: But we're testing the important frequencies for speech perception. ((L looks at J; J is looking down at infant)) So.

From this description, Lori described the procedure with great certainty and conveyed a sense of confidence. I did not sense any doubt in her description of the screen with respect to what it did or what it measured. She did not use words that cast doubt on the claim that there existed an emission or that this emission could be accessed through the screen device. Rather, Lori constructed an account of the screen that was aligned with the concepts denoted in the upper levels of Latour and Woolgar's (1986; cited in Potter, 1996) hierarchy of modalization. According to Latour and Woolgar, there is a hierarchy of modalization where descriptions can be constructed to indicate various degrees of facticity and correspondingly differ in their degree of association with the speaker. The hierarchy includes the following components:
X
X is a fact
I know that X
I claim that X
I believe that X
I hypothesize that X
I think that X
I guess that X
X is possible

At the top of the hierarchy, X is constructed to simply exist. It is present, and unobjectionable, regardless of who is making the description. As you move down the hierarchy, the description incorporates more of a role of the speaker in the construction. The presence of X becomes more linked with the presence of a speaker, one who has claims, thoughts, beliefs, hypotheses, hunches, and so on. With the links made between X and the speaker, the truthfulness and degree that one can trust and believe the statement become linked with the speaker, and moreover, the credibility that one associates with the speaker. Can the speaker be trusted as a reliable source? Does the speaker have the background, credentials, and other information that can support that X is true? The further down the hierarchy, the more provisional the description becomes and the more doubt is cast upon the certainty with which the speaker's description can be believed.

In Extract 8, Lori communicated that there existed something called X, an emission. X is an emission. X is a fact. Lori did not communicate that she thought or
believed there was an emission. An emission was communicated as something that simply existed. X "comes from the inner ear." Also, Lori began her claims with words, such as "what we know..." and "it means..." which suggested a certainty in the claims that would not have been as apparent if she had instead, for instance, said "what we believe" or "it may mean that..."

In this extract, Lori has repeatedly used the indefinite plural pronoun “we” or “we’re” as in “what we’re looking for,” “we’re gonna...,,” “what we know about the inner ear,” “we hear,” and “we test.” The word “we” indicated that it was not only Lori who put forth these concepts about the screening. In effect, the ideas were supported by a number of people and incorporated what Potter (1996) suggested as providing consensus and corroboration for her claims. She has indicated consensus and corroboration because she has suggested that a number of people support her claims. The use of the word “we” is also very non-specific. Lori did not at any point in time identify who the other members of the “we” were and whether she meant other members of her department, other members of her profession, staff of the screening program, and so on. Indicating consensus and corroboration for claims is one way that claims can be made to sound more factual (Edwards & Potter, 1992; Potter, 1996). By presenting her description in this way, Lori’s personal stake in the situation has been minimized, because she does not emphasize the “I” in the matter in terms of what “I know,” “I’m looking for” or “I’m testing.” She provided an account where she was not solely accountable for the actions or claims made. Instead, she was part of a collective that could support her actions and her claims.
Lori's claims were also made to sound more factual by not including a description of an agent in particular utterances. For example, in Extract 8, Lori stated, "and we're looking for -- it's called an emission but it's like an echo... in response to that sound." She used a phrase "it's called an emission" that helped to introduce the term to the parent, rather than completing her previous statement "we're looking for (an emission)." Lori introduced the label to the parent with an indefinite pronoun "it's" and did not specify an agent. Who has called it an emission? Lori? Other screeners? Doctors? Audiologists? It's not clear from Lori's statement who had identified and labeled the emission. Without specifying an agent, it became of lesser importance who labeled it an emission, but that an emission simply existed and it had a name. It was constructed as a fact and a truth that there was a particular entity that was present in the world, and it was called an "emission."

Furthermore, Lori used a series of declarative statements in her description. Her final statement was different from her previous statements in the extract, because she used a rising intonation in two of her words, "okay" and "ears," which left a brief opening for Janice to respond to her statements. In this extract, Janice was very much in the recipient position of the interaction. Lori did not invite Janice's comments or questions related to the content of her declarations. In fact, upon examination of Janice's responses in this extract, I noted that her contributions were limited to the same one-word response repeated five times. The word "okay" can be characterized as an acknowledgement token, which allowed Janice to indicate to Lori that she had heard what Lori had said and to suggest that she understood the meaning of her statements. It is interesting because the time allotted to Janice's
response was brief, only long enough for her to express “okay” before Lori began her next statement. In this part of the interaction, it seemed to be understood between the two participants that Lori was “holding the floor” here and Janice was not expected to contribute anything more than short acknowledgements of Lori’s utterances.

In the final statement of Extract 3, after Janice had described her concerns to Lori and shared her story, Lori shifted topics and asked Janice about the in-hospital screen at Stage One. Interestingly, Lori did not probe any further about Janice’s experiences, nor did she provide any comments or explanations for Jenny’s non-responsiveness. In fact, at no subsequent time during the screening session did Lori specifically refer back to Janice’s concerns about observing Jenny’s lack of responsiveness to sounds. At the same time, Janice also did not mention her concerns again after she had received the pass results.

Later in the session, however, just after a Stage Two pass result was obtained on the first ear, the screener mentioned to the parent a possible explanation for the refer result at Stage One:

9  L: [And we'll] try the other one. ((J moves infant over to her other arm, looks up at L)) Yep. ((nods)) Sometimes when they test 'em in the hospital, they're <pretty full of gu:nk:> ((L leans in and moves cable towards infant. J laughs)) Vernix and stuff like that which can also affect this test, so.

In this description, the screener was providing the parent with an explanation for the fail result at Stage One. The explanation was general with use of non-specific
terms such as "sometimes" and "stuff like that." The screener also did not directly reference Jenny, rather, indefinite pronouns, such as "they're" and "em" (i.e., "them") were used. By not referencing Jenny specifically, the explanation was presented as an explanation but not necessarily the explanation for Jenny's Stage One result. Similarly, the explanation was presented as more of a probability than a certainty with use of the word "can" rather than "will." At the same time, Lori introduced the discussion about possible reasons Jenny did not pass Stage One by using the words, "pretty full of gunk." The word "gunk" in itself communicated a casual tone, which seemed to minimize or downplay the seriousness of the claim. The use of non-specific terms was counter-balanced with the insertion of a technical term, "vernix." Why has she chosen to insert "gunk" then follow it with the word "vernix?"

The insertion of the technical term may have been used to indicate that the screener did indeed have knowledge about postnatal conditions of newborns and, moreover, that vernix, specifically, may be a contributing factor to obtaining a fail result. At the same time, the non-specific nature of this explanation may serve various functions: 1) it may serve to indicate that the explanation may apply to some Stage One fail results but not others, and 2) it may convey that the explanation is plausible but not a certainty.

Regardless of its non-specific nature, the explanation itself within the context of this screening interaction is presented as the primary explanation for Jenny's Stage One fail result. First, no alternative possibilities for a Stage One fail result were presented. By not presenting other possibilities, it was presented as the only or most probable explanation. Second, the timing that this explanation was provided
during the screening session may contribute to its presentation as a description to explain Jenny's Stage One result, because it occurred at a time when the interaction was child-focused and centered on Jenny. At this time of the session, the screener was in close physical proximity with the infant and mother, touching the infant to insert the probe tip, and periodically whispering comforting and soothing comments to her. Also, the screener provided this explanation immediately after communicating the infant's Stage Two screen result -- a result specific to Jenny. The sequential organization of presenting the explanation of a Stage One fail result immediately following Jenny's Stage Two screen and the communication of Jenny's Stage Two screen result suggested that the explanation being provided was meant to be applicable to Jenny specifically. This situation can be contrasted with the effects of presenting this explanation prior to the screen being conducted and coinciding with the screener's description of the screening procedures (e.g., description of the emission). If presented near the beginning of the session when the screener was describing the screen, the explanation may have been presented as more non-specific in nature and not necessarily applicable to Jenny per se.

This combination of non-specific terms within this particular sequence of the interaction was used to communicate to the parent a plausible explanation for the child failing the Stage One screen. By not providing alternative versions for the result, she presents it as a probable explanation for the Stage One result. At the same time, the screener maintains an ambiguity and generality in her description that contributes to its presentation as more of a cautious hypothesis than an absolute certainty.
Interview with Janice

In the interview, I asked Janice to describe her experiences at Stage One, her reaction and interpretation of the Stage One results, her experiences of waiting for the Stage Two screen, her account of the Stage Two screen results, and her reaction to the way the results had been communicated to her. Janice was also asked about her feelings concerning my presence in the room during the appointment and also her feelings about being videotaped. The interview concluded with our review and discussion of the videotaped footage of the screening.

Researcher's Process: I felt like I could have given Janice more time to respond to the interview questions. At times, I felt that I proceeded ahead to the next question too quickly. I did not want to take too much control during the videotape review, but at the same time, I was not sure how comfortable Janice was in stopping the tape or initiating discussion. I wanted to give Janice the opportunity to raise any points of interest first, but I also felt that I needed to initiate if any points arose for me during the playback of the video. I was very self-conscious about time with all of the parent participants, in part, because of the presence of their infants during the interview. I did not want to extend the interview any longer than necessary.

Janice's account of the screen. In the following extract, I asked Janice about her reaction to Jenny's first hearing screen in the hospital.

10 B: Okay, so why don't we go back to Stage -- the first screen, stage one. Um, so can you tell me a little bit about what it was like for you at the hospital while Jenny was getting screened for the first time?
J: Curious.
B: Curious.
J: Worried.
B: Worried.
J: Um, I didn't really understand what was going on until (.) the girl said that she didn't respond. And that I had to come back ( ) so. Other than that, ↓CURious.
B: ↑Yea::h
J: °Curious and um°
B: Curious about what the result meant? Or?
J: The whole thing.
B: Oh:::
J: Just the whole °part of hearing you know.° Her not responding to it first of all. I thought >what (could be) wrong< you know. They have fluid, but (.) the fluid dries up and you can hear. But I guess it takes ↑awhile ((J laughs))
But I thought they take those suction things and then they take all the fluid out. Guess they didn't get it all! ((J laughs)) So. It just got me worried.

In this extract, Janice constructed an account that included the presence of fluid in Jenny's ears. This account was consistent with Lori's previous account of vernix in the ear (in Extract 9), which identified fluid in the ears as contributing factor to the "fail" screen result. I sensed after reading this extract, though, that Janice was questioning this claim and putting forth other possibilities. Janice showed support for
Lori’s claim that fluid in the ears may have affected the Stage One result with her statement "Guess they didn't get it (fluid) all!" However, her statements did not indicate a feeling of confidence in this explanation. Janice used the doubt marker "guess" twice in the passage and put forth accounts of uncertainty and lingering questions about the Stage One result.

In Janice’s final statements of Extract 10, she used the word "but" three times in three consecutive sentences. In these statements, the word "but" indicated an account of skepticism to fluid in the ears as a viable reason for the State One result. The clauses with the word "but" constructed three reasons that the presence of fluid in the ears did not seem reasonable to Janice: 1) fluid in the ears should dry up naturally, 2) fluid in the ears is a temporary condition that should be of relatively short duration, and 3) postpartum medical staff have the ability to remove excess fluid through suction. It is important to note that these three explanations were Janice’s constructions. Other individuals, depending upon their lens for viewing the interaction, may have provided very different explanations. For instance, a professional embedded in a postpartum medical framework may report that it was not possible for fluid to be removed with suction, because some fluid may be present behind the ear drum and, therefore, not accessible via suction (D. Brown, personal communication, November 24, 2004). Would it be helpful for Janice to construct the action of suction in this way as well? Would this type of information be helpful to share with parents at Stage One? Moreover, if Janice had these lingering doubts about fluid in Jenny’s ears being a factor influencing the refer result, then why did
Janice not voice these concerns with Lori when Lori mentioned vernix in the ear as a reason for Jenny's Stage One result (see Extract 9)?

Janice's response to my invitation to elaborate about her curiosity about the Stage One result was made to sound more dramatic and extreme with her use of categorical terms and phrases, such as "whole" and "not responding." The repetition of the word "whole" in the phrases "the whole thing" and "the whole part of hearing" as well as her inclusion of "first of all" to indicate the beginning of a list further emphasized the breadth of her uncertainty. She was not stating that she was unsure about only one aspect of the screening process. She was emphasizing that there were numerous uncertainties. Janice also repeated the word "just," which emphasized her claim in the first sentence that her uncertainty stemmed from numerous sources and also further intensified her final statement of the passage concerning her feelings of worry.

Janice also constructed a screen result that involved the need to return to the hospital with Jenny for further screening. Janice had told me during the interview that she had been uncertain about the meaning of the Stage One screen and that the screener at Stage One had provided her with limited information. Janice indicated that at the Stage One screening the screener left abruptly, because she needed to screen another infant who was being discharged from the hospital. According to Janice, the screener had stated that she would return afterwards to provide Janice with additional information about the screening, but, in the end, the screener did not return. In this extract, I have asked Janice about her thoughts regarding this series of events.

11 B: So then what was it like for you then with all that
happening?

J: Um, well I knew if she didn't respond, then something was gonna... I'd have to come back to the hospital or something. I don't like the hospital at all.

Janice began her response by describing what she understood about the screen result, which was centered around her need to return to the hospital. Janice did not specify in her response what she expected would happen at the hospital. She may not have known exactly what would happen after Stage One and used the vague term "something" because she did not know the precise location of the screen or the specific sequence of steps involved in the screening process. Janice may have also used this vague descriptor because it was consistent with her previous responses that she was uncertain and had little knowledge about the screening process. Using the word "something" helped to support her previous statements that the screener had left her with little information about the details of the screening process.

In her response Janice also emphasized that a refer result meant that she would need to return to the hospital, a setting that she disliked. The refer result was associated with an activity that she would rather not do. Why did Janice want to inform me of her dislike for hospitals? Perhaps Janice wanted to let me know that she disliked the hospital but that she was still willing to attend for the wellbeing of her child. This, in turn, would be indicative of her dedication as a mother. Janice would set aside personal discomforts for the sake of her infant. Another possibility was that Janice wanted to indicate to me that the fail result had negative implications other
than simply the anxiety associated with not knowing Jenny's hearing status. The result also meant that Janice would need to return to a context that she adamantly disliked. She was stating a way, perhaps, that the refer result was linked to various inconveniences and undesirable consequences. In addition, Janice's use of the words "have to" suggested that the action of returning to the hospital was not her choice. She did not say that she wanted or hoped to return to the hospital for further screening. Rather, she indicated that she had to. Who said that she had to? Did she feel compelled to return because she needed to find out the result? Or did she feel that she needed to return because the system or program stated that she needed to return with Jenny for further screening?

During my interview with Janice, I asked her about any next steps that she thought were necessary given the outcome of the disclosure meeting. The intent of this question was to learn about parents' perspectives about future needs with respect to their infant's hearing. I had expected responses that were related to contacting the program if additional concerns arose, watching and monitoring the developmental milestones for speech or, perhaps, no actions at all because the child's hearing was normal. In many ways, I expected responses that were consistent with the role that the screener described during the screening session, whereby parents would follow the development of their child and contact the program if needed. From Janice, I received the response that she only came to appointments when the doctor's office called her.

B: And so now when you leave today, after you've gotten all the screen results and stuff, um, is there any next step that you need to do... related to Jenny's hearing?
J: Um, I don't know. I don't really know. I couldn't really say, cause I don't know. I only come by the doctor's appointments that I get called for ((J laughs)).

My use of the term "next step" may have been ambiguous and may have been associated with Janice's uncertainty in her response. Perhaps Janice would have responded differently if I had asked her a more specific question, such as "What would you do if you became concerned about Jenny's hearing in the future?" My question was aimed at learning about what Janice would do now that she knew the screen results. What was interesting about her response was that she stated "don't know" three times before stating that her actions were related to receiving a phone call from the doctor. Otherwise, she could not declare another aspect of her role.

In this next extract, Janice began her description by providing a version of a Stage One refer result that was associated with Jenny's lack of response to various people and objects in her environment. It was similar in some respects to the claims that she had made in Extract 1. Following the statement, "She doesn't do nothing," however, Janice provided a new version to account for the refer result at Stage One and the pass result at Stage Two.

13 B: And so what about the time period after you left the hospital and then until today? How's the waiting been?
J: Um okay:. Except for- it sort of got me a little worried cause she doesn't respond "a lot." A dog barks, you should respond to that. Jump or startle you know. She doesn't respond
to it. She doesn't respond to anything until it's something touching her. My dog has a very cold nose. Touches her and she's wide awake. Other than that, no. She doesn't move. She doesn't do nothing. So, I don't know. I think she can block things out. That's what I think cause I can do that. I can sit there and block everybody's voice out and stare at the TV. You know like I can—When I'm sleeping, I can block everything else out, besides her. I listen to her breathe. Fall asleep to that so... I think she can do the same thing ((J laughs)). It's really weird.

Extract 13 can be contrasted with Extract 1 where Janice used extreme descriptors to describe Jenny's behaviours, such as "never responded," "anything," and "doesn't respond" in response to sounds in her environment. Although Janice continued to state repeatedly that Jenny "doesn't respond," Janice's statements also included elements that decreased the strength and extremity of the situation that was described in Extract 1. She incorporated minimizing words such as "a little" to describe her feelings of worry. She also incorporated words that contrasted Janice's previous statements, which indicated a complete and total lack of responsiveness. Janice qualified her statements. For example, rather than stating that Jenny never responded or simply that she doesn't respond, in Extract 13 Janice stated that Jenny "doesn't respond a lot" (emphasis added). With this statement she was indicating that there were instances when she had seen her child respond to sounds occurring around her. Also, in this account Janice provided an example that indicated that
Jenny did respond when the dog's nose touched her. She added to her statement "she doesn't respond to anything" with the clause "until it's something touching her." Janice's use of the time marker "until" indicated that Janice did respond in some instances, which was contrary to her initial account in Extract 1 where she used the word "never." Regardless of the discrepancies between Extract 1 and Extract 13, the core idea that Jenny did not respond to many sounds occurring around her remained essentially intact, with the strength and sense of concern from the arguments somewhat lessened from the first extract.

During the screening interaction, Janice had shared her concerns and feelings of worry about her child's lack of responsiveness. Later in the screening session, Lori shared with Janice results that indicated that Jenny's hearing was normal. If Jenny's hearing was deemed normal, what then could account for Janice's description of Jenny's behaviours? How could these contradictory versions become a part of one coherent description? Could Janice have been over-anxious and reading too much into Jenny's behaviours? Could Janice have been inaccurate in her observations? Could the screen results have been inaccurate? Could there be a condition other than hearing loss that could account for Jenny's observed behaviours? During her interview with me, Janice provided me with her own explanation for the contradictory versions. Janice provided me with an explanation that could account for the Stage Two pass results and her original description of Jenny's complete lack of responsiveness to her surroundings. Janice began to explain Jenny's lack of responsiveness by describing how Jenny could "block things out." Janice constructed an account of the Stage One refer result to include the
description that Jenny blocked out aspects of her environment in a manner that was similar to Janice. The discrepancies between Janice’s accounts of the Stage One refer results are described in more detail in the section, “Comparison of the accounts.”

Interview with Lori

The interview with Lori progressed in a similar format to my interview with Janice, because it included discussion of the screen results and the screening appointment, and, also, the review and discussion of the videotaped screening footage. In the interview, Lori described Jenny’s Stage One and Stage Two results. Lori described her approach for conducting the screen and, more specifically, her approach for communicating the results to Janice. Other topics for discussion included the training that Lori received in preparation for her role as a screener in the program, as well as her feelings about the presence of me and the video camera in the room during the screening session.

Researcher’s Process: In many ways, I believe that consumers enter medical settings, such as a hospital, with a certain level of trust. It is expected that “experts” and specialists have specific skills and knowledge and are authorities in their areas. If that is the case, then some consumers may be less likely to question the validity of a screening or any other medically-related procedure. Lori mentioned that she typically did not meet parents who pressed for information or questioned her after receiving a fail or refer result. I wondered the extent to which parents felt comfortable asserting questions during the screening sessions. If parents were expected to trust a system that was based on expert knowledge, then how much would they really
question? Is it possible for some parents to feel intimidated by procedures associated with medicine and hospitals?

Lori's account of the screen. The screener's account of a Stage One fail result that was shared with the parent during the screening session can be contrasted with an account that was provided during my interview with the screener. I was interested in the screener's explanation of sharing a possible explanation for a fail result at Stage One after rather than prior to obtaining a result at Stage Two. In this extract, the screener described a reason for sharing an explanation with the parent for a fail result at Stage One:

14  L: [Yes exactly] because that's likely what it was. I mean it could've been a number of things. It could've been too noisy maybe the baby was moved around too much. There's lotsa reasons why
B: Right
L: But because I got the pass- I think I probably just said that because I know that mom was- was anxious about it.

In Lori's opening statements of Extract 14, she described her explanation of vernix in the ear as a "likely" explanation for the Stage One result. The use of the word "likely" indicated that this was an explanation that was most probable, but also still one of a number of other possibilities. Unlike her description to the parent (in Extract 9), Lori provided alternative explanations for a fail result, such as a noisy screening context or physical state of the infant during screening, and, also explicitly stated that there were a number of other possible reasons for why the infant did not
pass Stage One. Why has Lori made note of multiple explanations for a fail result with me and not with Janice? Lori's statements were presented as possible explanations through the inclusion of doubt markers, such as "could've been" and "maybe." Such markers indicated an uncertainty that was absent from the screener's description to the parent. Why has Lori expressed the description with more doubt and uncertainty with me than with Janice? What were the repercussions for showing a lesser degree of certainty with Janice?

From Lori's description, a refer result may be interpreted as indicative of problems in the screening environment, that is, problematic conditions external to the infant. These conditions may include high levels of background noise or excessive movement of the infant during the screen. In the statement "... the baby was moved around too much," Lori has made the statement in the passive voice and omitted the agent of the action. In other words, the agent, whether a screener, a parent, or a nurse, was not specified. It is possible that Lori did not want to assign accountability for an action that may be perceived as a miscue or error. Alternately, Lori may have wanted to emphasize the movement of the infant as the key contributing factor to a fail result rather than who was responsible for the infant's positioning during the screen. By communicating the conditions in this way, the conditions seem to be events that simply exist or occur rather than events that individuals bring into being through their actions. In other words, particular events may be constructed as factual because they are described and presented as existing "out there" or external to the speaker and not as a product of personal agency.
I sensed some skepticism on the part of Lori that Jenny “never responded” as Janice claimed in Extract 1. Lori did not recognize Janice’s responses as a cause for concern. Why? Why would Janice’s claims not be taken immediately by Lori as a fact or truth? Why would Lori instead adopt a “wait and see” attitude where she would wait until the result from the screen had been obtained? She also communicated that she did not expect an infant of Jenny’s age to be able to orient her head toward a particular sound, but that Jenny not startling to the barking dog may have been a cause for concern. At the same time, Lori did not mention these issues in any subsequent part of the screening interaction. She did not circle back to address Janice’s concerns. Is the assumption then made that Janice was mistaken or inaccurate in her observations? In this way, could Lori have perceived that Janice’s account was indicative of too much interest or too much stake in seeing a problem in Jenny?

According to Potter (1996), stake and interest can be built up or undermined in descriptions. The facticity assigned to a particular description can be discounted if the description is viewed as indicating personal stake or interest in a particular result or outcome. A speaker whose account is viewed as interested, may no longer be viewed as a non-partisan speaker who presents “the facts.” In this way, the knowledge entitlements assigned to this individual may be weakened, because they may be viewed as reflecting the goals and objectives of a speaker who has a vested interest in a particular, desired outcome at a personal, group, or institutional level. Perhaps Janice’s category of “parent” was associated with a strong degree of personal investment or interest, which meant that she could not be viewed as
“objective” and capable of providing an “accurate” assessment of Jenny’s behaviours.

Comparison of the Accounts

From my understanding of this screening technique, the "echo" was detected through the use of a screening device rather than through observation of behavioural responses. The screener could determine whether an echo had been detected by referring to the device and seeing the result on the device's display screen. Did the parent have this impression as well or did she expect her child to respond in an outwardly physical manner? From the descriptions that Janice provided in Extracts 1 and 2 regarding the Stage One result, Janice had constructed a version that included outward physical responses, which did not correspond with the screener's construction of a response -- an emission from the inner ear. In effect, the parent, Janice, had been attempting to make observable the "response" that the screener constructed as primarily unobservable. For both Lori and Janice, a pass result signified the end of Janice and Jenny's involvement with the screening program and no further visits to the hospital.

In Janice's account in Extract 13, Janice has not discounted her previous description in Extract 1 regarding Jenny's lack of responsiveness. In fact, she reiterated that her child did not startle in response to the sound of the barking dog. From her statements, she confirmed her previous statements and again added that "you should respond" to a dog barking. She put forth an expectation but also stated it in a way that indicated that it should be; it is normal behaviour for an infant to startle to a barking dog. There still appeared to be some uncertainty about her child's
lack of response. Rather than denying her original claims about Jenny's complete lack of responsiveness, which would have been equivalent to suggesting that she had been incorrect or inaccurate in her assessments, Janice put forth claims that supported her previous descriptions. She did not discount the screen results or cast doubt on them, and she did not cite the possibility of another potential developmental problem that could explain her child's behaviours. Instead, Janice provided an explanation that supported Jenny as a healthy, normal infant and, at the same time, indicated a personality trait that was shared between mother and daughter. Her daughter was just like her in this way, and so this alternative "blocking" explanation was a way that could consolidate the bond between mother and daughter. Whether it was possible for an infant to "block out" aspects of her environment was beside the point -- it was that this was raised as the plausible explanation that was not only consistent with the pass results but also with Janice's previous description.

I believe these statements were described to me for several reasons: 1) to indicate that Janice was accurate in her observations about Jenny's lack of responsiveness to her surroundings, 2) to provide an alternative explanation for Jenny's behaviours, which also indicated a shared mother-daughter personality trait and 3) to indicate Janice's attentiveness as a mother. Janice, in making her point, described how she could block out sounds. Janice added, though, that this blocking did not include the sounds of her daughter, and, in fact, that she was very aware of her daughter, including the quiet sounds of her daughter's breathing. Janice could
tune out from her environment, but she could not and would not tune out the sounds of her daughter.

According to Drew (2003), contradictions and discrepancies that were evident between the two accounts that Janice provided in Extract 1 and Extract 13 are consistent with a common phenomena of inconsistency that has been documented in conversation analytic research. The phenomenon of inconsistency has been described as a pattern in conversation that occurs when an initial claim is made to sound more dramatic, strong, and extreme. The recipient who hears this initial claim may choose not to endorse the initial account or may display some skepticism to the speaker's initial claims by not responding, providing minimal acknowledgements, or by using interrogative elliptical repeats (e.g., Speaker: “She didn't respond.”; Recipient: “Didn't she?”; Drew, p. 151). In a subsequent claim, the speaker may put forth an account that is a weaker version than the strong, dramatic version that was provided previously. Initial claims may be retracted to incorporate less extreme versions that incorporate some exceptions to the extremes.

According to Drew (2003), the initial, exaggerated claims are used in order to fit within the sequential conversation and interaction environments in which they were put forth. They are used because they fit within a particular action sequence of the interaction and do what is required, given the particular sequence of conversational moves. Speakers produce versions that fit within particular “sequential moments” (Drew, p. 156). When the moment for the need for a strong version has passed by, a strong version may not be needed anymore. The speaker can put forth a weaker version, which is still consistent with the initial strong claims.
That is, the retractions are constructed to "preserve some consistency with initial versions and hence the essential correctness of those first versions" (Drew, p. 151).

Janice may have constructed a strong account of her daughter's behaviours because it fit within the sequence of the interaction in which Janice was asked to provide reasons for her feelings of concern. Lori had asked Janice very early in the screening interaction about whether Janice felt concerned. This question set up a part of the interaction where feelings of concern were being highlighted. The question was also a yes-no question, “are you concerned?” which was conducive to a response indicating concern or lack of concern. In contrast, a more open-ended question, such as “how are you feeling about the screening today?,” may have encouraged the parent to more openly describe her feelings in her own words.

Lori repeated the question “are you concerned?” with the follow-up interrogative, “are you?” The repetition of the question seemed to convey a sense of surprise with Janice's affirmative response that she was concerned. With the interrogative repeat and also the focus on concern early in the interaction, Janice may have been in the position in the interaction to provide a justification for her claim that she felt concerned. In other words, Lori's questions were putting Janice in the position within the conversation to provide reasons, explanations, and support for her claim of feeling concerned. By being in this position to justify her concern, Janice may have used a strong claim because it provided a stronger rationale and substantiation for her claim. Otherwise, her claim of concern had the possibility of being viewed by Lori as baseless and without justification. The claim of concern would be most consistent with claims that there was something problematic about
Jenny's behaviours. The more Janice could claim that there was a problem, the more justified it could be viewed that she should feel concerned.

My hypotheses regarding the family case of Janice and Jenny were presented in detail in the preceding section. The four cases in subsequent sections of this chapter are not described in similar detail but were examined with the same discourse analytic procedures and the same depth as Family Case 1.

Family Case 2: Marie and Scott

Marie was the mother of three children. Marie reported being part of a two-parent household. She reported a family household income range of $15,000 to $25,000. Marie did not disclose her age, but from her appearance I guessed that Marie was 25 or 26 years old. Scott, her youngest son, was having his hearing screened at Stage Two exactly one month after his birth. Scott did not pass the Stage One screening in either his left or right ear. At the Stage Two screen, Scott received pass results for both ears.

The Screening Interaction

The screening interaction was comparable in length to the screening interaction involving Family Case 1. They were both approximately 12 minutes long. Both of the infants, Jenny and Scott, were also fairly quiet during the interaction, which translated into relatively little time needed to screen each ear. At the beginning of the interaction, there was some confusion regarding Scott's first and last name. Lori's documentation regarding Scott's screen had Scott's first and last name reversed. Once his given names were confirmed, the rest of the screen
proceeded much like the others. Lori asked Marie about the Stage One screen and then proceeded to describe the screen procedures. Initially, Lori attempted to screen Scott's ears as he sat in the infant carrier. When Scott's movements made it difficult for Lori to conduct the screen, Lori asked Marie if she could hold the baby during the screening of each ear. Marie, upon Lori's suggestion, began feeding Scott as a method to help settle Scott. Lori then screened each ear and communicated the results. Lori provided Marie with the pamphlet and obtained information about Scott's family doctor. Because Marie had forgotten her blue hospital card at home, Lori accompanied Marie to the hospital Admitting Station to obtain a new blue hospital card. When they returned, Lori downloaded the results to the computer and said good-bye to Marie.

*Non-verbal behaviours during the wait period.* Lori had tried several times to screen Scott's ear, first while he was in the infant carrier and once again soon after Marie picked him up. As Lori was adjusting the size of the probe tip, Marie sat down and prepared to breastfeed Scott. Marie continued breastfeeding Scott, while Lori stood by and tried to screen Scott's left ear once again. Lori inserted and re-adjusted the probe tip, then waited for a result to be obtained on the screen device. Please see Table 4.3 for a description of eye gaze behaviours during the screening of Scott's left ear.
Table 4.3

Eye Gaze for Left Ear Screen

<table>
<thead>
<tr>
<th>Counter</th>
<th>Lori's Eye Gaze</th>
<th>Marie's Eye Gaze</th>
<th>Action&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:07</td>
<td>Scott</td>
<td>Scott</td>
<td>Insert probe tip (L)</td>
</tr>
<tr>
<td>5:10</td>
<td>Scott</td>
<td>Scott</td>
<td>Get screen device (L)</td>
</tr>
<tr>
<td>5:12</td>
<td>Screen device</td>
<td>Scott</td>
<td>Prepare screen device (L)</td>
</tr>
<tr>
<td>5:16</td>
<td>Screen device</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>5:18</td>
<td>Scott</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>5:19</td>
<td>Screen device</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>5:30</td>
<td>Screen device</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>5:31</td>
<td>Screen device</td>
<td>Front space</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>5:32</td>
<td>Marie</td>
<td>Lori</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>5:34</td>
<td>Scott</td>
<td>Front space</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>5:35</td>
<td>Screen device</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>5:38</td>
<td>Scott</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>5:39</td>
<td>Screen device</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>5:47</td>
<td>Scott</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>5:48</td>
<td>Screen device</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>5:50</td>
<td>Scott</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
</tbody>
</table>

<sup>a</sup> continued next page
Table 4.3 (continued)

<table>
<thead>
<tr>
<th>Counter</th>
<th>Lori’s Eye Gaze</th>
<th>Marie’s Eye Gaze</th>
<th>Action(^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:51</td>
<td>Screen device</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>5:54</td>
<td>Scott</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>5:55</td>
<td>Screen device</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>5:58</td>
<td>Scott</td>
<td>Scott</td>
<td>Result obtained (L)</td>
</tr>
<tr>
<td>6:01</td>
<td>Marie</td>
<td>Lori</td>
<td>Communication of result (L)</td>
</tr>
</tbody>
</table>

\(^a\)Initials for Lori and Marie (i.e., L and M) indicate the participant(s) with whom I associated the particular action.

The wait period during the screening of Scott’s left ear was approximately 42 seconds. At the 5:31 mark of the video clip, Marie looked into the space in front of her and commented that Scott needed a diaper change. In response, Lori turned to Marie momentarily and provided a comment in return. Other than this brief exchange, Marie maintained her attention during the wait period on Scott, while Lori shifted her gaze frequently between the screen device and Scott. As in Family Case 1, Lori’s attention appeared to be on ensuring that the probe tip stayed in the appropriate position and monitoring the screen device.

In the interview with Lori, Lori interpreted Marie’s actions as indicative of interest in Lori’s actions during the screening, but not conveying a sense of anxiety or concern. She commented that the wait period seemed much longer watching it on
video than when actually conducting the screen. She said, "It seemed longer
watchin' it, than it does actually doing it."

Interestingly, Marie provided a different account of the wait period. First, she
expressed some sense of relief to see Scott moving as Lori was screening his left
ear. Marie provided an account where she saw Scott pulling away from the screen
device as Lori was conducting the screen. Marie put forth a claim that Scott’s
movement meant that he had heard the sounds from the screen device and was
pulling away. She contrasted this experience with her experience at Stage One
where she saw Scott sleeping through the screen. Marie described Scott’s
movement during the Stage Two screening as indicative that he could hear the
sounds being presented from the screen device, whereas Scott sleeping during the
screen (Stage One) was associated with the possibility that Scott was not hearing
the sounds from the screen device.

Once the pass result was obtained for Scott’s left ear, Lori communicated the
result to Marie. She then moved on to screen Scott’s right ear (see Table 4.4). Lori
needed to insert, adjust, and change the probe tip once again before a result was
obtained. Lori then communicated the pass result to Marie.

As with Scott’s left ear, Lori experienced some difficulty inserting the probe tip
into Scott’s right ear. She attempted to insert and adjust the probe tip a few times,
before eventually changing to a differently sized tip. The wait period for conducting
the screen was approximately 29 seconds, much shorter than the time needed to
screen Scott’s left ear. Lori, again, shifted her eye gaze between Scott and the
screen device. Marie appeared to maintain her eye gaze on Scott throughout the screening.

Table 4.4  
Eye Gaze for Right Ear Screen

<table>
<thead>
<tr>
<th>Counter</th>
<th>Lori’s Eye Gaze</th>
<th>Marie’s Eye Gaze</th>
<th>Action(^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:35</td>
<td>Scott</td>
<td>Scott</td>
<td>Insert probe tip (L)</td>
</tr>
<tr>
<td>7:42</td>
<td>Screen device</td>
<td>Scott</td>
<td>Get screen device (L)</td>
</tr>
<tr>
<td>7:43</td>
<td>Scott</td>
<td>Scott</td>
<td>Get screen device (L)</td>
</tr>
<tr>
<td>7:44</td>
<td>Screen device</td>
<td>Scott</td>
<td>Prepare screen device (L)</td>
</tr>
<tr>
<td>7:46</td>
<td>Scott</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>8:03</td>
<td>Scott</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>8:05</td>
<td>Screen device</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>8:06</td>
<td>Scott</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>8:07</td>
<td>Screen device</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>8:09</td>
<td>Scott</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>8:10</td>
<td>Screen device</td>
<td>Scott</td>
<td>Wait for result (L,M)</td>
</tr>
<tr>
<td>8:15</td>
<td>Scott</td>
<td>Scott</td>
<td>Result obtained (L)</td>
</tr>
<tr>
<td>8:16</td>
<td>Scott</td>
<td>Scott</td>
<td>Communicate result (L)</td>
</tr>
</tbody>
</table>

\(^a\)Initials for Lori and Marie (i.e., L and M) indicate the participant(s) with whom I associated the particular action.
During the interview, Lori did not identify anything in particular about Marie’s behaviours during the wait period. Marie, however, again described Scott’s physical responses during the screening. In contrast to the screening of Scott’s left ear, Marie did not notice Scott pulling away from the screen device while they were waiting for the screen result. Marie described Scott’s behaviour as an indication that Scott was more “content” with the screening process. Marie provided an account where Scott’s lack of movement during the screening of the right ear meant that Scott may have been becoming more accustomed to the screening procedures, including the sounds presented in the screen device. Marie also commented that she found it difficult to watch the probe tips being inserted into Scott’s ears. As she was watching the video clip of the screening of Scott’s right ear, she mentioned her discomfort in watching Lori try to adjust and re-adjust the probe tip as she attempted to insert the different probe tips.

*Maries account of the screen.* In contrast to Janice in Family Case 1, Marie did not express any concern during the screening interaction with Lori. With the exception of the exchange that occurred at the beginning of the interaction regarding Scott’s given names, Marie’s utterances were mainly in the form of brief one-word responses to Lori’s questions (e.g., “yeah,” “no”) or acknowledgements (e.g., “okay”) of Lori’s claims. Marie initiated very few times during the interaction: 1) during the screening of Scott’s left ear, Marie commented that Scott needed a diaper change; and 2) just after the first screen result was obtained, Marie commented about Scott’s hair and the similarity to his two siblings. Other than these few instances, Marie’s talk during the interaction was limited.
Lori's account of the screen. Lori provided a description of the screening procedure that was similar to the one she provided in Family Case 1. She constructed the results as a product of procedures where sounds were presented to Scott's ears. An inner ear was constructed as "healthy" and "working properly" if an echo or emission could be detected at three different pitches or tones. Once the echo was detected, Lori described the outcome as he "passed both ears." When communicating the result to Marie, Lori said, "it looks fine;" "he looks great on both sides;" and "he looks great today."

Interview with Marie

During the interview, Marie and I discussed similar topics to those discussed during the parent interview in Family Case 1. We discussed Marie's experiences during and after the Stage One screen, as well as Marie's experiences during the Stage Two screen.

Marie's account of the screen. Similar to Janice in Family Case 1, Marie described feelings of worry after the Stage One screen. Marie stated that she could not recall exactly how the screener described the screen results to her, but that the result meant that Scott needed to be screened again in the future and that "he didn't hear it." Marie presented a version of the Stage One result, which was linked to uncertainty about her child's hearing ability.

15 M: Hearin' that he had to come back and it was like ↓okay:. U:m that's what got me worried more. It was like - well, is it (. ) as far as where he can't really hear anythin' at all or-
B: Mmm. ((B nods her head))

M: Uhm. (0.9) Is he gonna (.). like was he gonna be deaf or- what was- like I didn't know what was really ^happenin'(.). so:

Like Janice in Family Case 1, Marie also observed her child's response to sounds occurring around her, such as the voices of her other children. Marie reported that seeing Scott respond to surrounding sounds was encouraging to her. Marie also described feeling guilty, because she associated the result with something that she may have done wrong during her pregnancy (e.g., getting the necessary shots, seeing the doctor early enough).

16 B: Yeah- how were you feeling at that time when you heard that (the Stage One screen result)?

M: Uh:mm, that kinda got me worried- I was like (.). well, you know, 'cause I thought I got a:ll my shots, er- when I was pregnant with him ... Yeah so- like it just ^kinda made me feel bad<- it's like well ^why didn't I do it, and if somethin' did happen to him. It's like I started feelin' guilty. ((M chuckles))

B: Guilty?

M: Yeah like- just- I should have went and made sure that I did everythin' I was ^supposed to:. Like 'cause I didn't see a doctor until I was about three weeks.
In this account, Marie’s description of her reaction of the Stage One result centered around herself – her own behaviours during her pregnancy. Marie presented herself as personally accountable if a hearing problem became evident. In the above extract, she referred to herself several times using the pronoun “I.” Repeated self-referencing using “I,” as well as the inclusion of words, such as “should have,” “made sure,” and “supposed to” in her description presented an account where a problematic result was not only constructed as preventable but also linked to her own behaviours. According to Goffman (1981), presenting the claims as more closely aligned to oneself as opposed to others can increase one’s accountability for particular claims. Speakers are able to display different degrees of distance from what they are describing. Goffman stated that close footing as opposed to distanced footing was associated with increased speaker accountability. Goffman described footing as involving three different roles: principal, a person whose position or beliefs the talk is meant to represent; author, someone who has selected the words that are expressed; and the animator, the person who is saying the words. When the speaker is presented as the author, principal, and animator of a claim (i.e., close footing), speaker accountability is increased (Potter, 1996). In the above extract, Marie provided an account where her own sentiments were expressed, she was selecting the words being used, and she was also saying the words. In this way, Marie’s account positioned herself as personally responsible for the Stage One screen result.
Marie constructed the Stage Two screen results as confirmation that her child could hear. She expressed relief in hearing that Scott had passed the hearing screening.

*Interview with Lori*

In addition to interview topics, such as the results at Stage One and Stage Two for Scott, Lori and I discussed Lori's background. We talked about her knowledge of UNHS before working as a screener at Stage Two and, also, more generally, about her role and responsibilities as a screener.

*Lori's account of the screen.* Lori described briefly her experiences of being trained as a screener in the screening project. We briefly discussed a manual that was provided to health care professionals who participated in the provincial screening project. The manual provided information about the screening protocols and guidelines for the project. Objectives and benchmarks of the project were also outlined. Concepts that were outlined in these sections related to the number of infants screened, the number of infants referred to the second stage of screening at discharge, the number of families who return for follow-up, and the number of infants who receive diagnostic assessments. The manual also included specific guidelines for audiologists, physicians, geneticists, and early interventionists. What I did not see, however, were guidelines for screeners. The manual did not include information about specific objectives for screeners or their interactions with families. A section about families as participants in the project was also absent from the manual.
Lori did not refer to the manual directly as a key source of information in our interview. Lori primarily associated her training with her discussions with the regional Audiology Coordinator in the project. Lori discussed the need to help educate parents. Her role in helping to educate parents involved selecting information that she deemed appropriate for the disclosure meetings. When describing her approach with parents as she disclosed a Stage Two refer result, she emphasized that she did not want to raise the anxiety level of parents or alarm parents in any way. At the same time, she wanted to present the result in such a way that it was viewed as an important alert that should not be dismissed.

With respect to Lori's interactions with Marie and Scott, Lori provided a description of Scott's screen results that was consistent with the other "pass" descriptions that she provided with other families. Lori described the emission and echo being detected from the cochlea at three different frequencies. She also described the developmental milestones for speech and hearing that parents could refer to after they left the appointment. Lori mentioned that the pass signified that the family was no longer involved in the screening program, but that through their family doctor, Scott could be referred back for further assessment if necessary.

In the interview, Lori commented that Marie said very little during the screening interaction. She did not feel that there was anything about Marie's behaviours that would suggest that she was anxious or concerned about the screening or the screen results. Lori reported that she thought Marie was satisfied with the results of the screen. After the videotape review portion of the interview, Lori expressed some uncertainty about the meaning of Marie's actions. She reported that
she thought Marie sat through much of the interaction with a smile on her face, but not necessarily acknowledging what Lori was saying. Lori questioned whether Marie’s behaviours were indicative of her being simply satisfied with what was being said or her not understanding what was being said.

Comparison of the Accounts

In this family case, it became evident the discrepancies between Lori’s account and Marie’s account of the results. During our interview together, Marie shared some of her concerns after she learned of the Stage One result. Lori interpreted Marie’s behaviours during the screen as an indication that Marie was not feeling anxious about the screening. Why has Marie shared her concerns with me, but not with Lori? Was it important for Lori to know that Marie was concerned about Scott’s hearing? Also, Marie described during the interview, her great discomfort in watching the probe tips being inserted into Scott’s ears. Marie did not raise these concerns with Lori during the screening interaction. Was it important for Lori to know that Marie did not like the probe tips being inserted into Scott’s ears?

Family Case 3: Kate and Robert

Kate lived with her husband and two children in a small town near the city where the first and second stages of screening were conducted. She was 22 years old and the mother of one son who was 2 years old, and another newborn son, Robert. Kate reported a family household income between $15,000 and $25,000. Robert had his Stage One screening in hospital where he obtained a pass result for his left ear and a refer result for his right ear. Kate and Robert were scheduled for
the Stage Two screening appointment seven weeks after the Stage One screen had been obtained in the hospital. At Stage Two, Robert received pass results for both ears.

The Screening Interaction

The screen appointment began one hour behind schedule, because Kate and Robert had arrived approximately 45 minutes late for their appointment. Prior to the start of the screening session, Kate inquired about the possibility of warming Robert's milk before his feeding. Robert was hungry and was crying intermittently. At first meeting, Lori greeted Kate briefly where she introduced herself. After the initial greetings, Lori left the room to heat the bottle of milk and returned approximately 5 minutes later with Robert's warmed milk bottle.

When she returned, Kate began with an explanation to Lori about arriving late for the appointment. Lori acknowledged Kate's explanation briefly without additional comment and then greeted Robert. After Lori was seated, she provided Kate with information about the screening and asked about Kate's understanding of the screening procedure. Kate replied that she was not familiar with the screening process and had been given very little information at Stage One. Lori then described the screening technique and reported that she would be re-screening Robert's right ear. Lori inserted the probe tip of the screening device into Robert's right ear and waited for the result to display on the device's monitor. Lori reported to Kate after a few seconds that Robert had passed the screen on his right ear. Lori suggested that they re-screen the left ear. After a pass was obtained in the left ear as well, Lori closed the session by obtaining information about Robert's doctor, providing Kate
with a pamphlet, stamping the blue hospital card, and downloading the results to the computer.

In many ways, this screening appointment proceeded much more quickly than the appointment involving Family Case 1. Although there was the additional component of needing to soothe and feed Robert before conducting the screen, the process of the screen itself proceeded very smoothly. Lori was able to insert the probe tip into each ear quite easily. Kate was similar to Janice in Family Case 1 in that she was also very congenial and open to follow and listen to Lori’s prompts and descriptions. Kate, however, was generally more prepared than Janice for the appointment. Kate had already obtained a blue hospital card before she came into the department for her appointment. Kate also had a business card of her doctor in her wallet, which expedited the process of identifying the family doctor.

Regarding the verbal exchanges that occurred during the interaction, Lori did not identify her position as technician as she did with Janice (Family Case 1). Lori also did not ask about or use Kate’s or Robert’s names in her initial greeting and used Robert’s name rather than Kate’s name throughout the appointment. Lori would initiate more personal, casual discussion with Kate by directing comments to Robert, rather than to Kate directly. Overall, Lori directed fewer quiet, gentle comments to Robert than she had with Jenny. In contrast to the interaction involving Family Case 1, Lori did not ask Kate if she felt concerned about her infant’s hearing status. Consequently, there was no discussion about Kate’s thoughts concerning the Stage One result.
Researcher's Process: This interaction was also different from Family Case 1, because I had time during the first five minutes of the appointment to interact with the family, while Lori was heating Robert’s milk. During this time, I learned about what area Kate lived in, where she was raised, her commute for the screening appointment, her explanation for being late, her other child, and her child’s sleeping habits. It was an opportunity for us to become better acquainted and, moreover, a chance for me to learn more about Kate and her family. In many ways, I felt that I had insider knowledge about the families, knowledge that Lori did not have. During the screening interaction between Kate and Lori, there were no points in time when there was discussion about Kate’s parenting experiences, how Robert was doing at home, and so on. The talk of the screening interaction was focused upon the screen itself and upon gathering information about the Stage One screen from Kate, as well as communicating to her information about the procedures and outcome of the Stage Two screen. Would Lori need to know any information about the families beyond the results obtained from Stage One? Was it necessary? What would be the consequences of including a more “personal” approach to screening? Would it fit with the goals of the program?

Non-verbal behaviours during the wait period. During the screening of Robert’s left ear (see Table 4.5), Lori sat two feet away from Kate and Robert. Kate held a milk bottle and fed Robert during the screening.
Table 4.5
Eye Gaze for Left Ear Screen (Re-screen)

<table>
<thead>
<tr>
<th>Counter</th>
<th>Lori’s Eye Gaze</th>
<th>Kate’s Eye Gaze</th>
<th>Action&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:43</td>
<td>Robert</td>
<td>Robert</td>
<td>Insert probe tip (L)</td>
</tr>
<tr>
<td>9:48</td>
<td>Robert</td>
<td>Robert</td>
<td>Adjust device cord (L)</td>
</tr>
<tr>
<td>9:50</td>
<td>Screen device</td>
<td>Robert</td>
<td>Prepare screen device (L)</td>
</tr>
<tr>
<td>9:52</td>
<td>Robert</td>
<td>Robert</td>
<td>Wait for result (L,K)</td>
</tr>
<tr>
<td>9:53</td>
<td>Screen device</td>
<td>Robert</td>
<td>Wait for result (L, K)</td>
</tr>
<tr>
<td>9:56</td>
<td>Robert</td>
<td>Robert</td>
<td>Wait for result (L, K)</td>
</tr>
<tr>
<td>9:57</td>
<td>Screen device</td>
<td>Robert</td>
<td>Wait for result (L, K)</td>
</tr>
<tr>
<td>10:05</td>
<td>Robert</td>
<td>Robert</td>
<td>Result obtained (L)</td>
</tr>
<tr>
<td>10:07</td>
<td>Robert</td>
<td>Robert</td>
<td>Communicate result (L)</td>
</tr>
</tbody>
</table>

<sup>a</sup>Initials for Lori and Kate (i.e., L and K) indicate the participant(s) with whom I associated the particular action.

The wait period was approximately 13 seconds long. Kate maintained her attention on Robert throughout the period of the screening of Robert’s left ear. Lori switched her gaze between Robert and the screen device. As in Family Case 1, Lori’s attention was not on the parent during the wait period but on the screen device and the infant.
During the screening of Robert's right ear (see Table 4.6), Lori and Kate sat angled toward each other. Kate was holding Robert in her arms and continued feeding him a bottle of milk.

Table 4.6

*Eye Gaze for Right Ear Screen*

<table>
<thead>
<tr>
<th>Counter</th>
<th>Lori's Eye Gaze</th>
<th>Kate's Eye Gaze</th>
<th>Action$^a$</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:51</td>
<td>Robert</td>
<td>Robert</td>
<td>Insert probe tip (L)</td>
</tr>
<tr>
<td>8:54</td>
<td>Robert</td>
<td>Robert</td>
<td>Position probe tip (L)</td>
</tr>
<tr>
<td>8:57</td>
<td>Screen device</td>
<td>Robert</td>
<td>Prepare screen device (L)</td>
</tr>
<tr>
<td>8:59</td>
<td>Screen device</td>
<td>Robert</td>
<td>Wait for result (L,K)</td>
</tr>
<tr>
<td>9:02</td>
<td>Screen device</td>
<td>Robert</td>
<td>Adjust cord (L)</td>
</tr>
<tr>
<td>9:03</td>
<td>Screen device</td>
<td>Robert</td>
<td>Wait for result (L,K)</td>
</tr>
<tr>
<td>9:06</td>
<td>Robert</td>
<td>Robert</td>
<td>Wait for result (L,K)</td>
</tr>
<tr>
<td>9:07</td>
<td>Screen device</td>
<td>Robert</td>
<td>Wait for result (L,K)</td>
</tr>
<tr>
<td>9:12</td>
<td>Screen device</td>
<td>Screen device</td>
<td>Wait for result (L,K)</td>
</tr>
<tr>
<td>9:14</td>
<td>Screen device</td>
<td>Screen device</td>
<td>Wait for result (L,K)</td>
</tr>
<tr>
<td>9:16</td>
<td>Screen device</td>
<td>Screen device</td>
<td>Result obtained (L)</td>
</tr>
<tr>
<td>9:18</td>
<td>Robert</td>
<td>Robert's ear</td>
<td>Communicate result (L)</td>
</tr>
</tbody>
</table>

$^a$Initials Lori and Kate (i.e., L and K) indicate the participant(s) with whom I associated the particular action.
It took approximately 17 seconds to obtain the screen result. Lori attended primarily to the screen device with a brief glance at Robert at 9:06 of the video clip. Kate maintained her eye gaze on Robert during most of the wait period. At the 9:12 mark, Kate’s eyes flickered upward slightly towards Lori and the screen device. Unlike Janice in Family Case 1, Kate did not shift her eye gaze between Lori and the screen device. Kate’s head remained oriented downwards towards Robert and only her eyes appeared to flicker upwards very briefly twice just before the result was obtained.

During the videotape review portion of the interview with Lori, Lori commented how much longer the wait period was when she watched the videotape as opposed to when she was actually conducting the screen with the family.

17 L: Like I said, I think I said to you before on the last one (0.9) when I'm actually doing the test and— (0.9) ((L makes hand motions as if holding screening device)) and WAtching for the results, it doesn't seem to take long at all. But when I'm watching it on (. ) video it seems to take forEVer, before (. ) the result comes.
B: Yeah. (1.8)
L: Which is probably more like the parent's perspective in terms of (. ) waiting.
B: That it feels longer?
L: Yeah maybe.
B: Hmm.
L: Right 'cause they're not focusing on the test, they're just kinda sitting there waiting.
In this extract, Lori formulated a version of the wait period as she viewed the videotape that differed from a version that was created when she was actually conducting the screen. The version during the videotape was connected with a wait period that progressed very slowly and involved a period of waiting that did not involve any activity or focus. In contrast, Lori constructed a version of the wait period during the screening interaction that involved her actions, her need to watch for the results on the screen device and her need to focus on the screening. Lori distinguished these activities from the activities of parents during the same period, a period in which parents did not necessarily have a specific set of tasks to do or focus upon.

Kate's account of the screen. Kate initiated very few comments during the screening interaction. She did not express any feelings of concern regarding Robert's hearing, nor did Lori ask Kate about her feelings about the screening or the screen results. After each pass result was communicated to Kate, Kate simply provided the one-word comment, “Perfect.” At one point near the beginning of the interaction, Kate and Lori briefly discussed the Stage One screen and Kate's knowledge of the screening procedures.

18 L: [So do you - do you] know about the - the TEst? Do you know what we're doing or? ((L is leaning her head slightly on her right hand. Her elbow is on the table. K is feeding her infant his bottle and looking up at L))

K: U::m:: not really, no.
L: Okay. So >you weren't with him in the hospital when they did the screen?<
K: I WA:s, but she didn't really te:ll=
L: Oh:
K: =me a whole lot.
L: [Oh okay alright]
K: >She kinda stuck something in his ear and told me to come back< s(hhh)o: ((laughs))
L: Okay alright. He already passed the left one so.

This extract began with two question-answer sequences in succession. Both questions were in the form of yes-no questions regarding Kate's knowledge of the screening procedures. In the questions, Lori put forth two claims. First, she put forth the claim in the form of a question that Kate knew about the screening procedures. Second, Lori presented another claim, again in question form, that Kate was not present when Robert's hearing was screened. Kate's responses to Lori's questions indicated disagreement with both claims. The first disagreement response was in a weak form, because it was introduced with the marker, "um" and also included "not really," which acted to soften the version presented.

In Kate's subsequent disagreement to Lori's claim that Kate was not with Robert during the screen, Kate provided a stronger, more emphatic response to the question. She began her response without the "um" and stated, "I was." Her lengthening of the vowel sound in the word, "was," as well as the slight increase in volume of the first part of the word served to emphasize the verb and, moreover,
strengthen Kate’s claim that she was present during the screening. Kate further lent support to her claim by including two additional claims in her description: 1) Kate was given very little information, and 2) that the screener did not leave many opportunities for discussion. With regard to the second claim, Kate communicated the briskness of the screener’s approach. Kate made this claim at an increased speed from her other utterances, which suggested that the actions included in her claim (i.e., insertion of probe tip, informing Kate to come back for further screening) were performed in a quick manner.

Lori’s account of the screen. Lori’s account of the screen results was very similar to the account provided in Family Case 1. Lori described the screen using sentences and phrases, such as “we’re looking for an echo. It’s called an emission;” and “if we detect that, that tells us that he’s hearing the sound.” Lori also constructed an account where the detection of an emission was associated with a healthy inner ear. She described a pass result using the word “pass” as a verb, such as in “he already passed the left one,” and “he’s passed this stage of the screen.” When Lori communicated the results to Kate, she used words such as, “good and he’s fine,” that’s good,” and “he’s still good on that side.” Lori also constructed an account of the screen result that included providing Kate with information on speech and hearing development. She also stated that if concerns ever arose regarding Robert’s hearing, then their family doctor could refer him back to the department.
Interview with Kate

My interview with Kate followed a similar format as my interview with Janice in Family Case 1. The interview began with questions about Kate’s knowledge of UNHS and her experiences at the Stage One screen. We also discussed Kate’s reaction to the Stage Two screen and hearing the screen results. The interview concluded with the videotape review and discussion.

Kate’s account of the screen. Kate provided an account where she described experiencing a small degree of concern about Robert’s hearing status. For Kate, her concern appeared to stem primarily from not knowing conclusively whether Robert could hear in his right ear. It was the uncertainty of not knowing a definitive result that appeared to be most disconcerting for Kate. Kate’s concern about Robert’s hearing status lessened after Kate had had an opportunity to observe Robert’s responses to sounds at home. Kate reported that she snapped her fingers and clapped her hands then observed Robert’s reaction (e.g., eye blink). His observable responses to the clapping and snapping sounds provided her with some degree of confidence that Robert was able to hear. Kate’s account of the Stage One screen result, then, was similar to Janice from Family Case 1, because Kate associated the screen result with Robert’s hearing status and, moreover, with his ability to indicate his hearing status through the exhibition of observable behaviours in response to certain sounds.

Kate also communicated frustration about receiving very little information about the general objectives and procedures of the screen at Stage One. During one
part of the interview, I asked Kate to compare her experience in the hospital at Stage One with her experience with Lori at Stage Two.

19  B: And how did that compare to your first experience in the hospital?
K: Uh:mm: (1.6) ho:nestly I...she wasn't rude or anything, the- the woman that came in and did the test. She wasn't rude or anything, but I really didn't feel like I could ask. She just came in said "we do this," you know, "I'm just gonna test his hearing, we do this for all babies" uhm >like I said, didn't tell me anything< about how the test was run, >just stuck somethin' in his ears< and said "ok he passed in this ear and didn't in that so we just need you to come back (.) to get it done again".
B: Right
K: "To get the test redone". And then she said "it's nothing to be concerned about. Uh:mm:, very often babies get fluid in their ears from delivery. That's probably what causes it" And >that was it.< And then we booked the- the- the next appointment, so. Other than that though, not a whole lot of information. She was kind of- bru:sk [sic] I guess ((K motions with shoulders slightly)) like really->let's get this done.< (hhh)((laughs)) so:
B: Yeah. So that had an impact on how comfortable you felt asking questions?
K: Yeah. Definitely. She seemed like- i- it was- she was in (.). °>very much of a hurry.<°
In the above extract, Kate provided a specific and very vivid account of the Stage One screen. Kate described the screener’s approach by incorporating her assessments into a narrative. There was a structure to her narrative where she provided her overall assessment at the beginning (i.e., “not rude”), described the initial events of the narrative, included direct quotation of what the screener said, continued the narrative, and, finally, ended with another assessment of the screener’s approach (i.e., brisk). Her narrative was detailed, because Kate embedded direct quotations into her description.

According to Edwards and Potter (1992), the credibility assigned to an account can be worked up through the use of vivid description and narrative. In this way, Kate constructed an account that sounded factual and credible. She constructed an account where she presented detail in reporting the events and words of the screener, and, consequently, further supported her credibility as a speaker. Her introduction of the narrative with the assessment that “honestly" the screener was not “rude or anything" also acted to downplay any negative evaluations associated with the screener herself and to emphasize that Kate’s assessments were not based upon personal dislike or personality clashes. Instead, Kate produced a description where the screener’s actions were emphasized as opposed to the screener’s personal characteristics (i.e., rude). The assessment of the screener was emphasized in this interaction, because assessments both introduced and concluded her narrative account. Her inclusion of the sentence, “that
was it," also emphasized Kate's previous claim that she received much less information than she had expected.

Kate also described in her account that the Stage One screener had given her a pamphlet. According to Kate, the pamphlet provided her with little information.

20 K: I mean >she (the screener) gave me the pamphlet< but that doesn't really tell you a whole lot so.
B: The pamphlet, what does the pamphlet tell you...exactly?
K: Uh:m: (3.2), actually there wasn't a whole lot of information at all, it was just uh:m: the fact that it was the universal screening test for newborns=
B: Mm-hmm.
K: =A:::nd °I wish I could remember° (3.2) No, I can't remember what else it said but uh: (1.6) basically that it- all babies get it done- I think it was talking about in (the province): or somethin' like that. But it didn't say what- >what I was lookin' for< like what the test was looking for.

The pamphlet provided the name of the project, contact information, developmental milestones for speech and language, as well as suggestions for parents in promoting the development of children's talk and listening skills. The pamphlet included the description that a repeat screening was necessary because it was "common to have fluid in the middle ear following birth." The pamphlet also included information about next steps for parents and instructions for parents to prepare the baby to be in an optimal state (i.e., asleep, quiet) for the second stage of screening. Consistent with Kate's description of the pamphlet, I did not see any
information related to what the screen involved, what kind of result was being obtained, or how the result was obtained. The pamphlet included images of the handheld screen device as infants were being screened but did not provide any description of the device or how it was able to detect hearing or hearing loss.

After looking at the pamphlet, I felt that there was additional information that I would want to know if I were a parent participating in the project. What kinds of outcomes can I expect? What do these outcomes mean to my family? What do the outcomes not mean? What will I see at the screen? What will I be doing exactly? Generally, I did not feel a strong personal connection to the messages in the pamphlet. For example, a statement in the pamphlet was “Good hearing is essential for the normal development of language and listening skills.” I wondered if the ideas in this pamphlet could be phrased in a way that indicated that the sentence was directed to me specifically, as a parent. Why is good hearing essential? Good hearing is essential to whom? Why is it essential to me exactly? Without identifying a person or agent in the statement, I did not feel any personal stake or interest in the content matter. I think it would be helpful to devote a larger section of the pamphlet to explain why hearing screening would be important to a parent who was participating in the project.

Kate described the Stage Two screen result as indicative that “everything was alright,” “he passed the hearing test in both ears,” and the “test came back normal.” What was different from Janice’s account in Family Case 1 was Kate’s description of the provisional nature of the screen result. She added phrases and clauses that indicated a cautious optimism to the pass results. For example, she stated, “as far
as we know so far, everything seems to be a go;” and “for right now, for all intensive purposes, as far as I know, he’s got normal hearing.” These statements communicated the possibility that Robert’s hearing status could change in the future. Kate also claimed that she may be more attentive to Robert’s hearing over time, because he did not pass the Stage One screen in one ear.

Interview with Lori

During the interview, we discussed Lori’s knowledge of the infant’s hearing status before the appointment, her approach during the appointment, her account of the Stage Two screen results, and her view of the parent’s reaction to the screen results. We also discussed Lori’s accounts of the screening interaction during the videotape review portion of the interview. In contrast to our interview regarding Family Case 1, we discussed additional topics such as Lori’s views of parent knowledge about screening prior to Stage One, the number of screeners involved in the program, the protocol following a refer result at Stage One, the number of screening appointments she typically had per day, and the purpose of the blue hospital card and the letter to the doctor.

Researcher’s Process: I felt during this interview I had made assumptions about Lori’s role and the information that she would be able to share with me about the screening program. I realized later that these expectations and assumptions were embedded in the questions that I asked her during the interview. I asked her questions about the program, including the steps in the screening protocol, when parents may first learn about the program, what happens after the results from Stage One are obtained, and the number of screeners in the program. During the interview,
Lori often sounded uncertain about specific aspects of the program. She mentioned that she did not have any involvement with the screening program other than conducting the Stage Two screen, and that she had never met any of the other screeners in the program.

*Lori's account of the screen.* Lori described Kate as "pretty quiet." She reported after watching the videotape of the screening interaction that she did not sense any feelings of anxiety on Kate's part during the screening, and a negligible reaction after the screen results were communicated. Lori provided an account of the Stage Two screen result that was consistent with her previous account involving Family Case 1. She used the verb "passed" to indicate that Robert's "cochleas are working properly" and that Kate did not have to feel concerned about Robert's hearing status. Lori also indicated that Robert's pass result signified the end of his involvement with the screening program, but that if the family felt concerned about his hearing in the future, he could be referred back through their family doctor.

During the interview, Lori also provided an account of Kate's reported lack of knowledge about the procedures of the Stage One screen. Lori constructed an account, which involved two claims; first, that Stage One screeners were providing limited information to parents; and, second, that parents simply did not remember the events during the Stage One screen. These claims are indicated in the extract below.

21  L: So I don't think they're really (.) told that much. And I think it- WELL, it's- it may not be:: that they're not told that much. I think that, you know, a few hours after you've
had a baby you're not gonna remember everything.

that's done to it, or- Or uhm (1.8) you know just thinking
back when I had my son, I- ih- I probably wouldn't have
remembered, you know a month later a lot of what happened
in terms of conversation and stuff like that in the hospital so:

B: M-hmm.

L: Uh::m:, I don't know how much they tell them. I don't know
how much the screeners tell them in terms of what kind of
test they're doing. And I think at that point, you know most
parents are- that's not their priority, right?

B: M-hmm.

L: You know they want to be with their baby<, they want to
get better (0.9) and kinda head out. So I don't think it's a-
ih- it's hard to know whether it's just their memory- not
remembering what's been said to them in the hospital.

There is a great degree of uncertainty linked with Lori's claims in the above extract. She expressed her claims using words, such as "don't think," "think," "may, "probably," and "don't know," which communicated a great deal of doubt and speculation in her account. There were also several brief pauses, and other markers, such as "uhm" and "well" that communicated less confidence and certainty in her claims. Lori also provided competing versions where she first stated that screeners at Stage One did not provide a great deal of information to parents. She then retracted this statement and asserted her next claim about being a parent and
not remembering specific events soon after the birth of an infant. Interestingly, Lori also chose to reply to my question about Kate with descriptions that referred to parents more broadly as "they" and "them." Perhaps Lori did not want to provide an account that was linked specifically to a parent, and instead preferred to provide a more global assessment of parents' behaviours. In this way, her broad assessments were less refutable, because they did not apply to a specific person. If she had presented her claims with respect to Kate specifically, then these claims would have been more easily questioned or undermined. Lori was also able to work up her claims by including a brief narrative concerning her own experiences after giving birth to her son. By identifying herself as a parent within the context of brief narrative, Lori also provided additional support and credibility to her claim.

Another interesting aspect of this extract was that I sensed a distinction being made between Lori and the Stage One screeners at the hospital. Rather than using the "we" which was used consistently in her descriptions of the screen during the screening interactions with parents, Lori used the pronoun, "they." Using the word, "they" acted to distinguish the Stage One screeners from herself. Rather than identifying herself with this group, she constructed an account where the screeners at Stage One were a distinctly different group. In this context, it appeared that the "we" used in the screening interactions was distinct from the "they" who were described in this extract. In fact, Lori furthered her distance from the Stage One screeners by stating repeatedly that she did not know about the amount of information that screeners provided to parents. In this way, Lori communicated a
lack of familiarity with the practices of the Stage One screeners, practices which were not linked to her own practices as a screener at Stage Two.

Comparison of the Accounts

The primary discrepancy between Lori's account and Kate's account pertained to each participant's account of the Stage One screen. During our interview, Kate reported feeling some degree of concern after receiving the Stage One result. She expressed feeling "a niggling doubt" about Robert's hearing status that departed only after Kate received the Stage Two results. Kate also reported during our interview that she felt relieved after learning that Robert had passed the screen. In Lori's account, though, she did not indicate any concern on Kate's part. Lori reported seeing very little reaction from Kate during the screening interaction, with respect to the expression of anxiety, concern, or relief. This discrepancy suggested that there was a distinction between Lori's assessment of Kate's reactions during the screening interaction and Kate's reactions that were reported during the follow-up interview.

The one concern that Kate expressed during the screening interaction (see Extract 18) was that she felt that she received very little information after the Stage One screen. In response to this claim, however, Lori did not further inquire about Kate's experiences. She provided a brief acknowledgment, which was "Okay. Alright." In this context, the "alright" appeared to signal Lori's closure of the previous topic and her readiness to discuss a new topic -- the results obtained from the Stage One screen. Again, just as in Family Case 1, I felt that the parent's voiced concern
was left unaddressed, through Lori's almost immediate introduction of a new topic to the conversation.

It could be hypothesized that the late arrival of Kate and Robert to their appointment may have influenced Lori's talk during the screening interactions. However, Lori did not describe during the interview the impact of Kate and Robert arriving late for the appointment on her approach in the screening interactions. This event may not have been a point that Lori highlighted in this interaction because of the nature of Lori's screening schedule that day. Lori did not have another appointment scheduled immediately after her screening appointment with Kate and Robert and did not have another family waiting to meet her for a Stage Two screen. Therefore, this screening day may have been somewhat atypical for Lori in that there was a bit more flexibility in the time allotted for the screening interactions with parents.

During the interview, I asked Lori about the possibility that the density of screening appointments per day may have an impact on her approach with parents. Lori put forth a claim that contrasted with my hypothesis. She suggested that her approach with parents did not necessarily change depending upon how much time was allotted to each screening appointment. Specifically, Lori stated, "I don't think that I would - you - I didn't spend any more time with that mom just because I didn't have anyone else behind, like waiting behind her… you know I think half an hour is lots of time to do the test and explain the results so." Moreover, her claims about time were centered around her own tasks during the appointment rather than what parents may want from the interaction (e.g., explanation of Stage One results,
discussion of concerns). In her claims, she described the time allotted to the screening appointment in terms of her actions (e.g., "do the test") and what she needed to accomplish (e.g., "explain the results"). In this way, the time for the appointment was described in ways that were associated with more screener-centered than parent-centered goals.

Family Case 4: Carol and Thomas

Carol was 23 years old and the mother of one child, Thomas. Carol reported being part of a two-parent household and having a family household income between $45,000 and $55,000. At the Stage One screening in hospital, Thomas received a refer result for both the left and right ear. Thomas was scheduled for the Stage Two screening appointment five weeks after the Stage One screen had been obtained in the hospital. At Stage Two, Thomas received pass results for both ears.

The Screening Interaction

At the start of the screening interaction, Carol was seated, and Thomas was in his stroller. Carol was trying to soothe Thomas in his stroller because he was fussing slightly. Lori was attempting to determine the best physical positioning for Thomas while she screened his ears. She checked in with me as well to determine what worked best for me to videotape the screen. Lori greeted Thomas. Once Lori sat down, she let Carol know that she would be screening both ears. She asked Carol about her experiences at Stage One and the information that she received. She also asked Carol whether she felt at all concerned. Carol replied that she did not feel concerned. Lori then described the procedures of the screen. Lori attempted
to screen Thomas’s ear while he was in his stroller. She tried one size probe tip then switched to a larger size. Thomas was beginning to cry, as Lori was attempting to insert the probe tip into his ear. She was unable to obtain the result. Lori then suggested that Carol hold Thomas in her arms while the screen was conducted. Thomas continued to cry as Carol held him in her arms. Lori and Carol then discussed different methods that might help him calm down or fall asleep. After a few minutes passed, Lori left the room. Thomas was crying intermittently. When Lori returned, she sat down and waited for Thomas to settle down. Lori continued to suggest ways for Carol to calm and soothe Thomas. Carol eventually suggested giving Thomas a bottle. Lori then left the room to heat the bottle of milk for Thomas.

After Lori returned and Thomas was given his bottle, Lori tried once again to screen Thomas’s left ear. Once she obtained the result, Carol positioned herself to prepare for the screening of Thomas’s right ear. After she inserted the probe tip and the result was obtained, she communicated the results to Carol. After the screening of each ear was completed and the results communicated, Carol reported that she had felt concerned after the Stage One refer result. Carol and Lori then discussed briefly the reasons for her concern. The remainder of the interaction then proceeded in a similar manner to Family Case 1. Lori obtained their family doctor’s name, retrieved the blue hospital card, provided the family with the pamphlet, and downloaded the results to the computer.

Researcher’s Process: This interaction was different from Family Case 1, because Thomas was distressed and crying for much of the early part of the screening interaction. This screening interaction included much more conversation...
between Lori and Carol about strategies that would help Thomas settle down. Throughout the early parts of the interaction, Lori provided suggestions to Carol regarding ways to help soothe Thomas, such as putting him in the stroller, walking around with him, feeding him, and leaving the room and going for a walk. I felt awkward, because although Lori put forth these ideas as suggestions, I also felt that Lori was not only suggesting but also recommending strategies for Carol. It became a question for me about “who would know best about ways to soothe Thomas?” With each of Lori’s recommendations, I also felt some resistance from Carol. Carol, in fact, did not follow Lori’s immediate recommendation. She expressed doubt in response to Lori’s suggested strategies. Over the course of the interaction, Lori repeated some of her previous suggestions, which I interpreted as Lori’s way of gently persuading Carol to follow one of her recommendations. In the end, Carol proposed and adhered to her own strategy (i.e., giving Thomas a bottle).

If I were a parent in this situation, I would feel like it was my responsibility to help my infant be in a calm state in order for the screen to be conducted. If I could not accomplish this and my baby continued to cry for several minutes, I would also feel like my parenting skills would be on display and up for critique or judgment. I would feel that my actions were being evaluated. I would wonder if others would ask the question, “Do you know how to calm and soothe your baby?” My presence in the room and the presence of the video camera may have exacerbated this situation for the parent. For this reason, I chose to pause the videotape for several minutes while Carol was trying to soothe Thomas. What interested me more about this interaction was that at one point when Carol was trying to soothe Thomas, Lori asked Carol if
Thomas was her first child. Afterwards, I wondered with the timing of that question whether Carol felt like her manner of interacting with her child suggested to others that she was a first-time mother.

*Non-verbal behaviours during the wait period.* Lori attempted to screen Thomas's left ear first. Lori stood approximately one-and-a-half feet away from Carol and Thomas. Carol was sitting in a chair and holding Thomas in her left arm. She had her head tilted downward toward Thomas and was feeding him a bottle with her right hand. While inserting the probe tip into Thomas's ear, Lori leaned far forward so that she was face-to-face with both Carol and Thomas. After she inserted the probe tip once, she removed it momentarily, then re-inserted the probe tip into Thomas's ear and adjusted it a few times before conducting the screen. Lori held one hand near to Thomas's ear throughout the screening of his left ear. She held the screen device in her other hand. Table 4.7 indicates the actions that I observed after Lori re-inserted the probe tip.

The wait period during the screening of Thomas's left ear was approximately 18 seconds long. During this time, Lori appeared to be shifting her gaze between the screen device and Thomas. The positioning of her hand near to Thomas's ear indicated that she was trying to ensure that the probe tip stayed in position. The direction of Carol's head was faced away from Lori and the screen device. Throughout the screening of Thomas's left ear, Thomas could be heard making short grunting sounds as he was drinking his milk. Carol appeared to have maintained her eye gaze on Thomas. In fact, during the videotape review portion of
the interview, Carol described that her focus was upon "just keeping him (Thomas) quiet." Carol did not express any feelings of concern about the screen result.

Table 4.7

*Eye Gaze for Left Ear Screen*

<table>
<thead>
<tr>
<th>Counter</th>
<th>Lori's Eye Gaze</th>
<th>Carol's Eye Gaze</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:55</td>
<td>(Thomas)</td>
<td>Thomas</td>
<td>Insert probe tip (L)</td>
</tr>
<tr>
<td>2:59</td>
<td>(Thomas)</td>
<td>Thomas</td>
<td>Adjust probe tip (L)</td>
</tr>
<tr>
<td>3:02</td>
<td>Screen device</td>
<td>Thomas</td>
<td>Get screen device</td>
</tr>
<tr>
<td>3:05</td>
<td>Screen device</td>
<td>Thomas</td>
<td>Prepare screen device (L)</td>
</tr>
<tr>
<td>3:11</td>
<td>Thomas</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>3:12</td>
<td>Screen device</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>3:16</td>
<td>Thomas</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>3:21</td>
<td>(Thomas)</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>3:22</td>
<td>(Screen device)</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
</tbody>
</table>

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Table 4.7 (continued)

<table>
<thead>
<tr>
<th>Counter</th>
<th>Lori’s Eye Gaze</th>
<th>Carol’s Eye Gaze</th>
<th>Action (^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:29</td>
<td>Thomas</td>
<td>Thomas</td>
<td>Result obtained (L)</td>
</tr>
<tr>
<td>3:30</td>
<td>Thomas</td>
<td>Thomas</td>
<td>Communicate result (L)</td>
</tr>
</tbody>
</table>

*Note.* Bracketed text refers to my cautious hypotheses of eye gaze, which were based on my interpretation of other observable physical behaviours (e.g., head orientation, body lean, etc.).

\(^a\)Initials for Lori and Carol (i.e., L and C) indicate the participant(s) with whom I associated the particular action.

Lori’s shift in eye gaze between the screen device and the infant was consistent with her behaviours when screening Jenny’s right ear in Family Case 1. Lori appeared to be monitoring the position of the probe tip in the infant’s ear, and, at the same time, was also trying to monitor the screen device to see if a result could be obtained. Also consistent with Family Case 1 was that Lori’s focus of her eye gaze tended not to be on the parent. In other words, the wait period did not involve monitoring the parent in the same way as it involved monitoring the screen device or monitoring the infant.

In order to screen Thomas’s right ear, Lori moved from the left side of Carol and Thomas to their right side. Carol remained seated in her chair. She held Thomas in her right arm and used her left hand to feed Thomas his bottle. Carol’s head was tilted slightly downward toward Thomas. Lori was seated in a chair that
was angled toward Carol's chair. They were seated approximately two feet apart from each other. In comparison with the left ear, Lori had little difficulty inserting and positioning the probe tip while screening Thomas's right ear (see Table 4.8).

Table 4.8

*Eye Gaze for Right Ear Screen*

<table>
<thead>
<tr>
<th>Counter</th>
<th>Lori’s Eye Gaze</th>
<th>Carol’s Eye Gaze</th>
<th>Action a</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:06</td>
<td>Thomas</td>
<td>Thomas</td>
<td>Insert probe tip (L)</td>
</tr>
<tr>
<td>4:10</td>
<td>Screen device</td>
<td>Thomas</td>
<td>Prepare screen device (L)</td>
</tr>
<tr>
<td>4:12</td>
<td>Thomas</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:14</td>
<td>Screen device</td>
<td>Screen device</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:16</td>
<td>Thomas</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:17</td>
<td>Screen device</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:18</td>
<td>Screen device</td>
<td>Lori</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:18</td>
<td>Screen device</td>
<td>Screen device</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:19</td>
<td>Screen device</td>
<td>Lori</td>
<td>Wait for result (L,C)</td>
</tr>
</tbody>
</table>

continued next page
Table 4.8 (continued)

<table>
<thead>
<tr>
<th>Counter</th>
<th>Lori's Eye Gaze</th>
<th>Carol's Eye Gaze</th>
<th>Action^a</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:20</td>
<td>Screen device</td>
<td>Screen device</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:21</td>
<td>Screen device</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:22</td>
<td>Screen device</td>
<td>Lori</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:23</td>
<td>Screen device</td>
<td>Screen device</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:25</td>
<td>Screen device</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:29</td>
<td>Thomas</td>
<td>Screen device</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:30</td>
<td>Screen device</td>
<td>Lori</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:31</td>
<td>Screen device</td>
<td>Screen device</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:33</td>
<td>Screen device</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:35</td>
<td>Screen device</td>
<td>Lori</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:36</td>
<td>Screen device</td>
<td>Screen device</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:37</td>
<td>Screen device</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:39</td>
<td>Screen device</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:40</td>
<td>Thomas</td>
<td>Lori</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:41</td>
<td>Screen device</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:42</td>
<td>Screen device</td>
<td>Lori</td>
<td>Wait for result (L,C)</td>
</tr>
</tbody>
</table>

continued next page
Table 4.8 (continued)

<table>
<thead>
<tr>
<th>Counter</th>
<th>Lori’s Eye Gaze</th>
<th>Carol’s Eye Gaze</th>
<th>Action(^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:44</td>
<td>Screen device</td>
<td>Space in front of her</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:45</td>
<td>Screen device</td>
<td>Lori</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:46</td>
<td>Screen device</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:46</td>
<td>Screen device</td>
<td>Screen device</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:47</td>
<td>Screen device</td>
<td>Lori</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:48</td>
<td>Screen device</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:49</td>
<td>Thomas</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:50</td>
<td>Carol</td>
<td>Lori</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:51</td>
<td>Screen device</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:56</td>
<td>Thomas</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:57</td>
<td>Thomas</td>
<td>Table in front of her</td>
<td>Result obtained (L)</td>
</tr>
<tr>
<td>4:58</td>
<td>Thomas</td>
<td>Thomas</td>
<td>Communicate result (L)</td>
</tr>
</tbody>
</table>

\(^a\)Initials for Lori and Carol (i.e., L and C) indicate the participant(s) with whom I associated the particular action.

The wait period for screening Thomas’s right ear was approximately 45 seconds long, which was more than twice as long as the wait period for screening Thomas’s left ear. Lori, in contrast to the screening of Thomas’s left ear, maintained
her gaze much more frequently on the screen device and shifted her gaze less frequently between Thomas and the screen device. Carol did not maintain her eye gaze on Thomas as she had during the screening of Thomas's left ear, and, instead, shifted her eye gaze frequently between Thomas, the screen device, and Lori.

Toward the end of the wait period at the 4:50 mark of the video clip, Lori turned her head to her left and appeared to glance and smile at Carol. Carol looked up at Lori and smiled in response. This part of the interaction was unique from other wait period interactions involving the other families, because Lori initiated direct eye gaze at the parent. These actions may have been ways that Lori was attempting to reassure Carol that there was not a problematic result and that they were still awaiting the outcome of the screen.

Because Lori experienced little difficulty in inserting and adjusting the probe tip in Thomas's right ear, it was possible that her attention was more upon monitoring the screen device and less upon needing to ensure that the tip stayed in the appropriate position. During my interview with Lori, she mentioned that the screening of Thomas's right ear took longer than the other one, because she needed to repeat the screen a few times before she was able to obtain a result. Therefore, her attention on the screen device may have been associated with her actions of preparing the screen device each time that she needed to re-attempt the screen.

In contrast to the screening of Thomas's left ear, Carol quickly (at 4:14) turned her attention from Thomas to the screen device and soon afterwards (at 4:18) to Lori's face. Carol appeared to be looking at the screen device and to Lori for indications of the screen result. She appeared concerned as she shifted her gaze to
Lori approximately 10 times during the wait period and 8 times to the screen device. These actions were in contrast to her shifts in eye gaze during the wait period for the left ear, where Carol did not appear to shift her gaze from Thomas at all. For Carol, her physical positioning with respect to Lori enabled her to maintain oriented to Thomas, yet, at the same time, see Lori and the screen device. This was in contrast with their positioning during the screening of Thomas's left ear, where Carol was faced away from Lori and could not easily view the screen device. The visibility of Lori's face and the screen device to Carol during the wait period for screening Thomas's right ear was associated with a different sequence of actions than those associated with the wait period for screening Thomas's left ear.

During my interview with Lori, Lori mentioned that she was not aware during the wait period of the screening of Thomas's right ear of Carol's watchful behaviours of her and the screen device. After watching the videotaped footage, however, Lori noticed Carol's eye gaze and mentioned, "she's (Carol's) watching obviously." Lori was uncertain if Carol's behaviours were indicative of her concern or anxiety about Thomas's hearing or simply a desire to complete the screening.

During the videotape review, Carol indicated that during the wait period for the screening of Thomas's right ear, she felt concerned about Thomas's hearing. Carol described feelings of concern being associated with the increased length of time it took to screen Thomas's right ear.

22 B: "(B stops the video playback)) Can I ask you what you're thinking at that point?"

C: "(C laughs as she talks)) I was a little (hhh) concerned on that one. ((B laughs))"
B: Cause I- it was hard to see on the other one. But this one- I wanted to ask you that. Like how-

C: Yeah. I was a little concerned that maybe the hearing wasn't so well in that ear because it took a (hhh) lot longer, but- ((C laughs))

Carol stated, “Just basically didn't know if- okay, he can hear in one not the other...” Carol also commented that she was able to see lights on the screen device monitor and heard different volumes from it. When I asked her if seeing the activity on the monitor of the screen device was a cause for her concern, Carol provided the following response:

C: No it was just the Length (.) of time that it took- like the first ear- she went quite quick. And this one it took a little longer and it was- so I was kind of watchin’ what was going on on the screen and (.) waiting.

What was consistent about Carol’s descriptions was her description of time. She constructed an account where a longer wait period was associated with uncertainty about Thomas’s hearing in his right ear. Carol linked her behaviours during the wait period with feelings of concern about Thomas’s hearing. As for Lori, just as in Family Case 1, she was unaware of the parent’s facial expressions and eye gaze behaviours during the wait period of the screening. Lori’s attention tended to be on the screen device and the infant, but not the parent.
Carol's account of the screen. As in the screening interaction in Family Case 1, Lori inquired about the parent's knowledge of the Stage One screen. Lori used yes-no questions, such as "Were you... with him in the hospital... when they screened him?," and "And they told you about the test - what it's lookin' for or -?" These questions resulted in Carol's responses, which indicated that she had been with Thomas in the hospital when his hearing was screened, but that she was not told about the objectives of the screen. Just as in Family case 1, Lori also asked Carol whether she was concerned about Thomas's hearing. Carol replied, "No. Not at all." She used extreme case formulations with her use of "not at all" in her reply, which indicated a complete lack of concern. Later in the session, however, soon after Lori had shared the Stage Two screen results with Carol, Carol indicated that there had been feelings of concern after the Stage One screen in the hospital.

24  L: So do you have any questions about his (. ) hearing or hearing in general or (. ) about the program?
C: No: no: not really uhm, (0.9) it was just- we were- we were concerned of course after the first one. ((C looks down and giggles))
L: Right.
C: But he-
L: Was that the only reason you were concerned- Was just the fact that he: (. ) had not passed that?
C: Yeah. Yeah
L: Okay. So there weren't any other signs [that were causing-]
C: [No:], no.
L: Okay. ((nods))
C: You can drop a pen on the floor [and he'd] =
L: [Oh good]
C: =he [hears it].
L: Yeah.
C: Yeah. Yeah.
L: Okay, so that's a relief to you I guess.

In the above extract, Carol provided a contradictory account to her initial claim of lack of concern. In the first instance, Lori had asked Carol directly, “So you’re not concerned at all about his hearing or-?” to which Carol replied, “No. Not at all.” In Extract 24, Carol not only indicated concern but also used the phrase, “of course.” The phrase “of course” in her description made it sound as if feelings of concern were a natural and rightful consequence of receiving the Stage One screen results; that is, where anyone who experienced receiving the same Stage One results would express a similar degree of concern. What can account for Carol’s contradictory descriptions? The particular sequence of talk in the interaction may have affected Carol’s contradictory descriptions and competing versions.

Sacks (1992) discussed the presence of adjacency pairs in conversational sequences where certain classes of talk typically occur in pairs, such as questions-answers, offers-acceptance/refusal, greetings-return greetings, and so on. The different alternatives present in these pairs have been found to differ in their design, where certain conversational actions can be constructed to invite a particular type of response. This response has been referred to as a preferred action turn shape (Pomerantz, 1984, as cited in Hutchby & Woofitt, 1998). When a response departs
from the preferred action turn shape, then this response may be referred to as a
dispreferred action turn shape. In other words, focus is upon "how first parts can be
designed to prefer certain seconds" (Hutchby & Wooffitt, p. 45). For example, when a
speaker says, "It's a lovely afternoon, isn't it?" the utterance has invited agreement
with the speaker's assessment. In this instance, agreement with the assessment
would be described as the preferred action turn shape. Generally speaking, many
first parts in adjacency pairs in everyday interaction invite a preference for
agreement (Hutchby & Wooffitt). Preference, in this context, does not refer to
psychological motives or individual motivations. Instead emphasis is upon the way
that there exist institutionalized ways of speaking by which social actions are
accomplished (Hutchby & Wooffitt, p. 45).

Lori's question during the interaction, "So you're not concerned at all about
his hearing or-?" included an assessment of "you're not concerned at all about his
hearing." If we examined this question with reference to preference organization, the
preferred action turn shape would be one of agreement, where Carol indicated that
she was not concerned about her son's hearing. Carol did provide a preferred action
turn shape in her agreement that she was not concerned in her reply, "No. Not at
all." This sequence of conversation can be contrasted with the extract above where
Lori's question did not indicate a similar preference organization for describing
concern. In Extract 24 Carol may have provided an alternative version that was no
longer constrained by the sequence of the conversational turns; that is, she was no
longer within the immediate context of the adjacency pair where a preference for
agreement existed.
Why would Carol in response to a direct question about feelings of concern provide a definite "no" then provide a completely different response near the end of the same session that she had felt concerned after the Stage One screen? It is possible that the situational context of being asked the question directly before the screen as opposed to after the pass results had been obtained may have had an impact. Also, the difference in the way the questions were posed may have created a different conversational context for her reply. The first question to Carol was direct and referred to feelings of concern. Lori's second question was much more general and was not related to feelings of concern specifically. The question was "So do you have any questions about his hearing or hearing in general or about the program?" Another possibility is that Lori's first question may have been phrased in such a way that it referred to the present situation – feelings of concern in the present, whereas, Carol's response near the end of the session may have been referring to a specific period of time soon after the Stage One result had been obtained.

Whatever the reason, it seems that the expression of concern differed depending upon the context, whether that was the context of the situation that was being referred to (current situation or after Stage One), the timing of the question in the interaction (pre-screening or post-screening), or the specific conversational context of the turn (specific with preferred turn indicated or broad with no preference for agreement indicated).

Lori's account of the screen. As in other screening interactions, Lori asked about Carol's presence during the Stage One screen and also whether she was told any information about the screen. After Carol replied that she had not received
information about the Stage One screen, Lori produced an utterance that was unique from her talk within other interactions. She responded, "Just stuck them in his ears and said "oh you have ta..." Lori and Carol had been laughing in response to Carol's indication that she had not received any information at Stage One. Carol had also provided her response with a wide and slow head shake, which further emphasized her "no" response. Lori appeared to match the laughter with a follow-up response that made light of the activities of the Stage One screen. Her use of the word "just" seemed to indicate the concept of doing less rather than more. It seemed to provide a description that indicated the provision of limited or partial services rather than complete services. The word "stuck" also seemed to emphasize the possibility that the insertion of the probe tips was done quickly and with little sensitivity and precision. The word was also spoken with emphasis. The word "stuck" can be contrasted with the word "placed" or "inserted," which suggested more care and forethought than the word "stuck."

What was also interesting about this statement was that she, again, did not include an agent in the statement. She did not specify who "stuck them in his ears." In this way, the action rather than the agent of the action was at the forefront of her statement. Lori may not have wanted an assessment that could be viewed as negative to be associated with any particular person or group of people. Instead the agents of the action were de-emphasized and the action itself seemed to simply have happened. Why would Lori include this statement?

Lori had the option of acknowledging Carol's response and further questioning Carol to learn about the reason for Carol's emphatic "no" head shake
response. Instead, Lori acknowledged Carol's response then provided a response that was consistent with their laughter in the previous turn, which was to use a casual word, such as "stuck." She inserted a hypothesis that Carol's lack of knowledge about the screen was associated with the behaviours of the screener at Stage One. By presenting it in this way, Lori showed some recognition and understanding of Carol's emphatic "no" version, but presented it in a lighthearted, casual tone. Lori was able to indicate in a lighthearted manner that she understood the situation rather than associate the situation with a more in-depth discussion of Carol's potential negative evaluations of the Stage One experience.

Lori went on to describe the screen and provided a description similar to her previous accounts. She described the emission, the echo from the cochlea or inner ear, and the sound coming back out as being indicative of normal hearing. Lori's statement regarding the screening of the left ear was different from her actions with other families. She was much less specific in her wording and used a statement that could be interpreted in more than one way. In Family Case 1, after the screening of the first ear, she provided Janice with an immediate description of the outcome of the screen and its meaning (e.g., that an echo was detected). In the interaction with Carol, after screening Thomas's left ear, Lori said, "Good. Okay, got that one." Then, only after she screened Thomas's right ear did she say, "we got it on both sides, so we're seeing that echo coming back out so he's- he looks great." Lori mentioned the detection of the echo only after she had screened both ears. In fact, when I first heard Lori during the screening interaction, I was unsure if she meant that she obtained a pass result and had detected an echo or whether she more generally
meant that she had obtained the result. I also wondered whether Lori’s behaviours meant that Thomas had obtained a “refer” result for his left ear. Her inclusion of the word “good” suggested to me that she had obtained a pass, but I was not sure, given that she did not say anything about a pass, an echo, or having normal, healthy hearing. Lori’s utterance felt ambiguous to me, so I wondered if Carol also felt the same way.

*Interview with Carol*

Carol and I discussed topics that were similar to those covered in other parent interviews. We discussed Carol’s background knowledge of UNHS, her experiences at Stage One, her feelings as she was waiting for the Stage Two screen, her experiences during the Stage Two screen, and her reaction to the video camera and my presence in the room. The final phase of the interview involved our review and discussion of the videotaped footage of the screening.

*Carol’s account of the screen.* Carol’s description of the Stage One screen was different from Janice, because Carol described how initially Thomas had been taken out of Carol’s room and placed in the nursery for his hearing screening. Carol mentioned that Thomas began to fuss. As a result, the screener brought Thomas back into the room so that Carol could hold and comfort him during the screening. Carol stated that, “they said that he probably still had fluid in his ears.” In response to a question about the way the screener described the results to her, Carol said that, “She didn’t say much. Just that we had to bring him back in because he was
too upset and he had fluid in his ears, and they couldn't get a proper reading...

That's all - that's all she said."

Similar to the mothers in the other family cases, Carol mentioned that she was provided with very little information about the screening procedure at Stage One. Carol expressed feeling a great degree of uncertainty after receiving the Stage One screen result. Carol stated that she was uncertain about how the screening was conducted and what it was looking for. Carol also associated the Stage One screen result with a need to re-screen Thomas's hearing.

25 B: What about the way: that the results were described to you by the screener?

C: She didn't say much. Just that we had to bring him back in because (. ) he was too upset and he had fluid in his ears, and they couldn't get a (. ) a proper reading.

B: Yeah?

C: That's all- that's all she said. ((C sh)akes her head and laughs))... No, no she didn't tell me what it- what it was doing or how it worked or anything. >She just did it.<

B: Mmm. Would you have wanted to know anything about that?

C: ((C is nodding her head)) WELL (hhh) kind of, YEAh ((C laughs))

B: About what it was? Yeah?

C: Just kind of curious WHAT it was 'cause- (0.4) I didn't know what they were doin' anyways. ((C laughs))

B: Yeah.

C: Yeah- ↓NO: but she didn't tell me anything.
What was unique about Carol's account of the Stage One screen was that she also used the word “fail” to describe the Stage One result. When I asked her what the result of the screen was, Carol stated, “All she said is that he had failed.” Carol also provided a description, which included a great deal of uncertainty concerning the procedures of the screen and also Thomas's hearing status.

Although Carol stated previously that she did not know if Thomas could hear or not, she also said in a later statement that she knew Thomas could hear even prior to her discharge from the hospital. Carol mentioned that she noticed Thomas startle to sounds. Unlike Janice, Carol described the period between the Stage One screen and Stage Two screen as one where she felt great confidence in Thomas's
ability to hear because of his response to sounds in his surroundings. Carol reported feeling only a small amount of concern.

I asked Carol about the variation in her responses regarding her feelings of concern about Thomas’s hearing status. I asked her to comment about one of her responses that she was not at all concerned and a later response that indicated that she was concerned after receiving the Stage One result (Extract 24). I had wanted Carol to comment on the discrepancy. At the time, though, I asked her a question that I believe influenced the response that she provided. In other words, I believe I led Carol to respond in a particular way. In my question, I inserted a claim that Carol’s first response indicating lack of concern was associated more with her own feelings, whereas her later reply was associated more with her partner’s feelings. Carol agreed with my claim. My insertion of my hypothesis of the differing accounts may have influenced the response that Carol described to me.

As for the ambiguous way that Lori communicated the Stage Two result for Thomas’s left ear, I tried to obtain Carol’s account of Lori’s description. During the videotape review portion of the interview, I asked Carol to describe to me how Lori had described the Stage Two result for the left ear. Carol indicated that Lori had said, “oh, I’ve got that one, that one’s good.” According to my transcript, however, Lori had stated, “Good. Okay, got that one.” To me, Carol’s reconstruction of Lori’s utterance indicated a claim that Lori obtained the result, Thomas had passed the hearing screen, and his hearing was normal in his left ear. As I stated previously, I could not decipher whether the assessment of “good” and “got that one” referred more generally to a result or, more specifically, to a “pass.” What I had heard as
ambiguous and uncertain was constructed positively as a pass result for Thomas’s left ear.

*Interview with Lori*

In the interview, I asked Lori to describe the results of the Stage One screen, as well as her description of the Stage Two screen and screen results. Lori and I also discussed additional aspects of the screening protocol, such as the information that she was given about each family prior to the screen. We also discussed the need for parents to calm and soothe their infants prior to the screening and strategies that other mothers have used to settle their infants.

*Lori’s account of the screen.* During the interview, I asked Lori to provide an account for Carol’s discrepancies in describing her feelings of concern. According to Lori, Carol may have constructed an account of no concern to indicate her confidence in Thomas’s hearing ability, given his response to sounds in his environment. Lori explained that Carol’s account later in the session may have been Carol’s description of her reaction to receiving the refer result itself at Stage One. That is, Lori described that Carol was generally confident about her child’s ability to hear, but that not passing the Stage One screen was in and of itself associated with feelings of concern.

With regard to Lori’s utterance after screening Thomas’s left ear (“Good. Okay, got that one”), Lori indicated that she disclosed the results after she had screened both ears. In this way, then, our versions were aligned, because we both constructed versions where “one” referred to a result rather than to a “pass” result.
Interestingly, Lori commented during the videotape review that she interpreted Carol's quietness after the screen to indicate a lack of anxiety. Lori mentioned that if Carol was anxious, then she would have asked Lori directly about the nature of the result (e.g., "so, did he pass?"). In this instance, Lori associated the presence or absence of questions with the parent's level of anxiety.

Comparison of the Accounts

Lori and Carol appeared to be aligned in their accounts of the Stage Two screen results. They were interpreted as positive outcomes and indicative of Thomas's ability to hear. They both also constructed versions where they described Carol's feelings of concern. For the most part, though, both Carol and Lori described Carol's confidence that her child could hear, which was based upon her observations of her child in the home environment.

The differences in their accounts were centered on the construction of the wait period at Stage Two. Just as in Family Case 1, Lori was not aware of the parent's behaviours as the two of them were waiting for the Stage Two screen results. During the screening of Thomas's right ear, Carol's eye gaze and facial expression indicated some degree of concern about the Stage Two result. Lori, on the other hand, was focused primarily upon the screen device. Lori shared in our follow-up interview, that it had taken a few attempts before she was able to obtain a result for Thomas's right ear. Carol, however, did not report knowing about Lori's multiple attempts, and, instead, referred to the total length of time needed before a result was obtained. That is, for Lori, the wait period may have been divided into segments that were associated with the number of times that she needed to re-
attempt the screen. For Carol, however, the wait period could be constructed as one, continuous segment of time that was much longer than the time needed to screen Thomas’s left ear.

Also, Carol and Lori constructed different accounts of Lori’s utterance after the screening of Thomas’s left ear. This difference in versions could be attributed to the ambiguity and lack of specificity in the wording that Lori used. Carol viewed the words as a positive indication of Thomas’s hearing. Lori created a version where she had not yet shared the outcome of the screen for that ear, and instead, shared the outcome after screening both ears. Although Lori did not formulate her description to convey to Carol the specific result for Thomas’s left ear, Carol still constructed an account where the “good” or positive evaluation was associated with Thomas receiving a pass result. I, on the other hand, constructed an account where Thomas may not have passed the screen on his left ear, because I was comparing the description Lori provided to Carol with the descriptions that she provided to other families. In the other family cases, such as Family Case 1, Lori shared with the parent immediately after the screening of the first ear the results using specific words, such as “We’re seeing that echo today coming out of that ear so that’s a good sign.” Similarly, in Family Case 2, Lori provided Marie with a specific description of the first ear screened: “And we’re seeing the echo coming back out of that ear at three different pitches, three different tones, and it looks fine.” Carol did not have similar experiences to compare to; therefore, her version would not necessarily highlight the ambiguity that I constructed.
Different versions were also evident when comparing the various purposes that utterances played in a conversation. In Extract 24, Lori had just communicated the Stage Two screen results and was asking Carol if she had any questions. Lori’s question was one where she was giving Carol the opportunity to receive more information about Thomas’s hearing, hearing in general, or about the program. It established a sequence in the conversation that could focus upon Lori providing information and Carol receiving information. Carol responded to Lori’s question, but then put forth a claim that her and her partner had felt concerned after receiving the results at Stage One.

It was possible that Carol initiated this topic of concern in order to obtain more information about reasons that Thomas did not pass the screen Stage One, and yet passed at Stage Two. This would have been consistent with Lori’s question, which was directing the interaction to a segment about information provision. The way that Carol put forth her claim, though, was not consistent with Lori’s question, which was requesting questions from Carol. Carol did not put forth a question, such as “Why would Thomas have passed the screen today and not the first screen in the hospital?” Instead she put forward a declarative statement. It was unclear whether Carol was indeed seeking information from Lori, whether she wanted to focus the discussion on her expression of her feelings and experiences after Stage One, or whether she sought a combination of the two, both seeking information and wanting to express her feelings.

Lori responded to Carol’s declarative statement with an acknowledgement token “Right” and also with a yes-no question, “Was that the only reason you were
concerned- Was just the fact that he had not passed that?” Rather than asking this question, Lori could have focused the direction of the conversation on Carol’s feelings of concern and inquired about Carol’s experiences. For example, Lori could have asked Carol, “Tell me more about your feelings of concern after Stage One,” and shifted the focus of the discussion on Carol’s experiences and feelings. Alternatively, Lori could have also focused the conversation on information provision by discussing her reasons that Thomas may not have passed the Stage One screen. Instead, in Lori’s question, she emphasized the word “only” and used the word “just” to put forth the claim that Carol’s concern was based on a single factor, not passing the Stage One screen. These words acted to minimize the strength of this factor as a cause for concern and suggested that there were other factors that would be more closely associated with feelings of concern. The question, being in yes-no format, also acted to limit Carol’s responses rather than invite a lengthier conversational turn from Carol.

Lori asked Carol, “So there weren’t any other signs...?” Carol responded “no” and put forth her own claim that “you can drop a pen on the floor and he’d- he hears it.” By asking Carol about other signs, she has drawn attention away from the Stage One result itself and instead shifted the focus of the conversation on other factors that may have been a cause for concern. In this way, Lori has acted to minimize attention on the outcome of the Stage One screen, and instead asked Carol to attend to other aspects of Thomas and his hearing. Carol responded with a short description of her son’s immediate response to sounds around her. Her example
provided an account of Thomas's ability to hear quiet sounds, such as a pen dropping on the floor.

In this way, Lori has shifted Carol's attention to Thomas's observable behaviours indicative of his hearing ability. Carol had the opportunity to provide an example of Thomas' hearing ability and thus further validate the pass results obtained at Stage Two. Lori further supported the Stage Two pass results with the question “so that's a -a relief to you I guess?” Incorporating the feeling of relief into her statement also highlighted the Stage Two results rather than the Stage One results. Lori moved the attention away from the word “concern,” which Carol used to introduce the topic of discussion, and replaced it with the notion of “relief” in her statement to conclude the discussion.

Family Case 5: Gail and Wendy

Because the communication of Stage Two refer results occurred infrequently, I incorporated into my research design retrospective interviews where a parent and screener re-constructed the events of the screen and the Stage Two screen results (see Chapter Three). Family Case 5 involved an interview with Gail, the parent of a child who had received a refer result at the Stage Two screen and was eventually diagnosed with a hearing loss. A brief retrospective interview was also conducted with Lori, because she had been involved in disclosing screen results to Gail at the secondary stages of screening. Gail was a 26-year old mother of Wendy, her 19-month old daughter. Gail was married and pregnant with her second child at the time of the interview. Gail reported a family household income between $45,000 and
$55,000. Wendy had a progressive hearing loss, which degenerated to a profound, bilateral hearing loss before she reached one year of age. Wendy received a cochlear implant when she was 13 months old.

**Interview with Gail**

During our interview, Gail and I discussed her family's experiences from the first screening stage in hospital until the time when Wendy received her cochlear implant. Our interview focused upon the initial stages of screening.

*Description of the screening interaction.* Gail described the Stage One screen as occurring one day after Wendy's birth. It was conducted just prior to their discharge from the hospital. Gail constructed an account where a nurse conducted the screen. Gail mentioned that the nurse did not appear very experienced and was having difficulty with the equipment and inserting the probe tips into Wendy's ears. She repeated the screen several times. Each time, Gail mentioned that she could see the word "refer" display on the screen device monitor. The nurse mentioned to Gail that the refer result was "not a big deal" and that "lots of times it doesn't work." The nurse also put forth explanations for the result, such as high levels of background noise while performing the screen or the presence of fluid in Wendy's ears. According to Gail, the nurse concluded the screen by stating "if you feel concerned about this or you want to have your child further tested, just call and set up an appointment."

Approximately four weeks later, Gail phoned to arrange a follow-up hearing screening for Wendy. Lori conducted the Stage Two screen with Wendy at
Children’s Hospital. Initially, Lori received a "refer" result for both ears. After the "refer" result was obtained, Lori conducted another screening procedure (i.e., automated auditory brain response system [AABR]), where she obtained two different results that indicated that Wendy may have had better hearing in one ear than the other. Gail could not recall Lori’s words during this appointment, but Gail indicated that Lori “didn’t really say much to us either.” After this appointment, Wendy began a series of diagnostic tests with audiologists and then proceeded to obtain hearing aids and, eventually, a cochlear implant.

**Gail’s account of the screen.** Gail’s account differed from the accounts of the other parents in several ways. First, Gail described the screen as being conducted by a nurse rather than a screener or technician. In contrast, none of the other parents interviewed described the involvement of a nurse during the Stage One screen. Second, Gail mentioned that after her Stage One screen, Gail and her husband were provided the option of a Stage Two screen for Wendy. If they wanted to arrange a second stage of screening, then it was their responsibility to initiate contact with the screening program. With the other 4 families, the audiologist for the screening program contacted the parents to arrange the appointments for the Stage Two screen. I interpreted these differences in accounts as a product of changes to the protocols of the screening program that have occurred over time.

Gail also did not include in her accounts any description of the screening procedures. Gail did not describe an emission or echo in her account of the screening stages. According to Gail, she left the Stage One screen knowing that Wendy “didn’t pass” and that she received a “refer” result, but that it was not
something to be concerned about. They followed the sentiments of the nurse at Stage One and constructed an account where there was no need for concern, because Wendy likely had fluid in her ears. Similarly, after Stage Two, Gail did not associate the screen results with a problem with Wendy’s hearing and continued to put forth the idea that Wendy’s ears were still filled with fluid. Gail left each stage of screening not feeling concerned, but feeling as if continued follow-up was necessary until conclusive results had been obtained.

In Gail’s account, she also constructed an account that included a contrast between screening and diagnostics. Gail reported that her lack of concern during the first two stages of the screening occurred, because “it was not like she (the screener) was diagnosing anything or saying anything about it.” In this instance, Gail constructed an account in which not passing a screening could be contrasted with diagnosis. Diagnosis was associated with the identification of an illness or medical condition, whereas a “refer” screen result was associated with an inconclusive finding and the need for further screening or assessment. During my interview with Gail, she reported that the lack of structure and organization of the screening protocol and lack of clear communication with parents about the screening process contributed to her feelings of frustration. Gail reported that there was a need for parents to receive a plan, where they were informed about the sequence of stages during the screening and diagnostic processes, as well as the procedures and potential consequences that were associated with each stage.
Interview with Lori

I conducted a brief 10-minute interview with Lori. In this interview, Lori described her previous interactions with Gail and Wendy. The events of the screening interaction were not recalled in great detail, because the Stage Two screen had occurred over one-and-a-half years prior to our interview.

**Lori’s account of the screen.** Lori indicated in her interview that at the time of her interaction with Gail and Wendy, she had only been working as a screener in the project for a few weeks. Therefore, this interaction was the first time that she needed to communicate to a parent that the infant did not pass the Stage Two screen. She did not recall saying very much to Gail. Lori reported feeling very inexperienced and unsure of herself. Consequently, she phoned the regional Audiology Coordinator for assistance. The Audiology Coordinator spoke to the parent on the phone and arranged an appointment for a diagnostic assessment.

Lori described Gail to be an “open person” who was “approachable and easy to talk to.” Lori believed that she would have mentioned to Lori that another test was needed. Lori did not report sensing that Gail was feeling a high level of concern or anxiety. Lori described that her action of contacting the Audiology Coordinator for assistance was more a product of her own level of self-confidence rather than the product of the parent’s emotional reactions to the screen results.

**Comparison of Accounts**

Lori and Gail were consistent in their statements that Gail did not report a high degree of concern during the initial stages of the screening process. Gail’s
account was linked to the possibility of fluid in her infant's ears. Lori's account was that the anxiety level during the Stage Two screen was more a by-product of her inexperience as a screener than the level of concern that the parent was exhibiting.

Constructed Objects and Subjects in Discourse

In the present investigation certain terms and phrases were used to present versions of the screen results (i.e., objects in discourse) as well as the participants in the disclosure meetings (i.e., subjects in discourse). These versions or interpretative repertoires are presented in the following sections.

Construction of the Objects in Discourse

Before collecting my data, I had expected participants to describe passing a hearing screen with terms such as "pass" and "negative" and not passing the screen with terms such as "refer" and "positive." My expectation was based from reading the empirical literature related to mass screening programs. In the literature, terms such as "positive," "negative," "false-positive," and "false-negative" were commonly used to describe screen results. I had expected to encounter a similar repertoire of terms when observing and talking to the participants of the screening program. Instead, I found that in practice, screen results were discussed in terms of "pass," "did not pass," "fail," and occasionally "refer." The word "pass" was used frequently to describe both negative and positive results, whether it was with terms such as "pass" or "did not pass," respectively. I came to understand that in interactions with parents the screener did not use the word "fail" to describe the screen results, because it could be negatively connoted and anxiety-provoking for parents. When
outside the context of the screening session, however, I found that the screener frequently used the word "fail" to describe a result where the child did not pass the screen. For example, in follow-up interviews with the screener, the screener used the word "fail" in such phrases as "failed the emissions screening" and "failing in the hospital."

In the interactions discussed in this chapter, a pass result was constructed in many different ways. It was used in adjective form, as in "pass result," but more frequently it was used in verb form, such as "she passed." A pass result indicated aspects of biological functioning. It also was used to refer to an infant's behavioural capabilities or as an indicator in screening procedures (i.e., when a pass is displayed on a screening device monitor). A pass was constructed as meaning that the inner ear or cochlea was healthy and functioning normally. This description of biological functioning was associated with certain behaviours in the infants. For example, a pass result suggested to parents that their infants should show behaviours that indicated that they were hearing sounds occurring around them (e.g., eye blink, startle). At the same time, a pass has also been used to refer simply to one of two options on a screen device, whereby a pass indicates that an entity, an emission, has been detected at three different frequencies or pitches.

A pass result in the interactions carried with it a positive connotation. Parents expressed relief and happiness when they received a pass result. Lori, the screener, consistently used adjectives, such as "good" and "fine," to describe the results. The word "pass" may have been constructed positively, because of its association with being the favoured outcome while in educational settings, such as when one passes
a test or exam. A refer or fail result, however, was viewed as either a negative or neutral entity. It was associated with hearing loss or with uncertainty or inconclusive results. Lori, the screener constructed a more neutral account of a refer or fail result. She described it as an alert that indicated the need for further in-depth assessment. She indicated that it was not a sign that the child had a hearing loss. Rather, it was an indicator either to repeat the screen or to conduct other types of assessment. According to Lori, several factors not associated with hearing loss could lead to a fail or refer result, such as excessive movement of the infant during the screening, or excessive level of background noise, and so on.

The tables (See Tables 4.9, 4.10, and 4.11) and paragraphs below provide a summary of my hypotheses of the versions of screen results that were constructed within the interactions. The social, practical, and theoretical implications of these versions are described in Chapter Five.
Table 4.9

*Construction of a refer result* (at Stage One and prior to Stage Two)

<table>
<thead>
<tr>
<th>Parents' versions</th>
<th>Lori's versions</th>
</tr>
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<tbody>
<tr>
<td>My child did not respond during the screening (Janice). I did not know what they (the screeners) were looking for at Stage One and what the results meant (Kate, Carol).</td>
<td>An &quot;emission&quot; or &quot;echo&quot; from the infant's inner ear or cochlea has not been detected at the frequencies that were screened.</td>
</tr>
<tr>
<td>I see my child sleeping during the Stage One screen, which may mean that he cannot hear the sounds from the screen device. I may have done something wrong during pregnancy to have caused this result (Marie).</td>
<td>There are many reasons that a child may receive a refer result. Aspects of the screening environment (e.g., too noisy, child was moved too much) or vernix in the infants' ears may have contributed to the result.</td>
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Table 4.9 (continued)

<table>
<thead>
<tr>
<th>Parents' versions</th>
<th>Lori's versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>My child does not move in response to sounds occurring around her (Janice). I</td>
<td>I would not expect the infant (i.e., Jenny) screened to be developmentally capable</td>
</tr>
<tr>
<td>see my child responding to sounds in the environment, so I am less concerned about</td>
<td>of turning her head towards sources of sounds. A startle could possibly be</td>
</tr>
<tr>
<td>the Stage One screen result than I was before (Marie, Kate, Carol).</td>
<td>expected but not a head turn.</td>
</tr>
<tr>
<td>My child not passing the screen was a cause for some concern. Does the result</td>
<td>The result does not mean that the child is deaf.</td>
</tr>
<tr>
<td>mean that my child has a hearing loss (Janice, Marie, Kate, Carol)? But I can see</td>
<td></td>
</tr>
<tr>
<td>my child responding to sounds. I am not sure what all of this means (Marie, Kate,</td>
<td></td>
</tr>
<tr>
<td>Carol).</td>
<td></td>
</tr>
</tbody>
</table>
Table 4.9 (continued)

<table>
<thead>
<tr>
<th>Parents' versions</th>
<th>Lori's versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>The refer results at the first two stages of screening were not a cause for concern, because the screening did not lead to any kind of diagnosis. My child likely had fluid in her ears at the time of screening (Gail).</td>
<td>Screening includes the detection of an emission at three specific frequencies and does not involve a full audiological assessment. A refer result at Stage Two is like an alert. It indicates the need for more in-depth assessment.</td>
</tr>
<tr>
<td>I need to return to the hospital or clinic for more screening (Janice, Kate, Carol, Gail).</td>
<td>The result indicated a need for further screening.</td>
</tr>
</tbody>
</table>

Although the versions between parents' and the screener's versions were consistent in that they both included the description of the need for parents and their infants to return for further screening, the construction of the refer results at Stage One was associated with greater variation in versions than consistencies. The versions between the screener and the parents differed with respect to the association that was made between the refer result at Stage One and the likelihood of the infant having a hearing loss. Parents’ versions were suggestive of uncertainty about infant hearing status. The screener’s version emphasized factors at the time of
the screening that may have led to a refer result (e.g., vernix in the infant's ear, background noise at time of screening) and placed less emphasis upon the possibility of infant hearing loss.

Discrepancies in versions existed when participants described the period of time after Stage One and prior to Stage Two. Parents' versions included reports of doubt, uncertainty, and varying degrees of worry and concern. I sensed that parents were reporting feeling in "limbo." Parents reported having initial concerns associated with their infants not passing the screening (construed negatively). At the same time, though, parents described feelings of reassurance after they began observing and monitoring their infants' behaviours and responses to sound. Parents expressed a combination of feeling confident and, also, feeling uncertain about the meaning of the refer results.

The primary discrepancies in the parents' and the screener's versions of the Stage Two wait period were associated with differential foci of attention. Some parents sought cues that would provide them with some indication of the results of the screen. One mother formulated an account where her infant was pulling away from the screen device and, therefore, deduced that her child was able hear sounds that were presented from the screen device. She contrasted this account with her account of the Stage One screen where she reported her son falling asleep during the screening. The infant's movements were signs to the parent that her infant could hear the sounds from the screen device.
Table 4.10

Construction of the wait period at Stage Two

<table>
<thead>
<tr>
<th>Parents' versions</th>
<th>Lori's versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>I see my child pulling away from the screen device at Stage Two, which may mean</td>
<td>I am monitoring the screen device and also making sure that the probe tip stays in the appropriate position in the infant's ear. I will communicate the result as soon as it is available on the screen device monitor.</td>
</tr>
<tr>
<td>that he is hearing the sounds presented in the screen device (Marie). I am</td>
<td></td>
</tr>
<tr>
<td>watching the screen device and the screener for signs about whether or not my</td>
<td></td>
</tr>
<tr>
<td>child has passed the screen (Janice, Carol).</td>
<td></td>
</tr>
<tr>
<td>The time it has taken to receive the result for this ear seems much longer than</td>
<td>The time it takes to wait for the result on the screen device monitor seems much longer as I am watching it on videotape than when I am actually performing the screen. This may be more like what it is like from the parent's perspective.</td>
</tr>
<tr>
<td>the time needed to screen the first ear. I am concerned that my child may not</td>
<td></td>
</tr>
<tr>
<td>be able hear in one ear (Carol).</td>
<td></td>
</tr>
</tbody>
</table>

Another parent took cues from the time needed to obtain the screen results. She compared the time that was needed to obtain a result in one ear and compared it with the time needed to obtain the result for the other ear. When the parent
constructed a wide discrepancy in the times, then she constructed an account where a lengthier wait time was associated with the possibility that her child had a hearing loss in one ear.

Table 4.11

*Construction of a pass result at Stage Two*

<table>
<thead>
<tr>
<th>Parents' versions</th>
<th>Lori's versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>My child will respond to the sounds around her (Janice).</td>
<td>An &quot;emission&quot; or &quot;echo&quot; was detected from outer hair cells at three different frequencies.</td>
</tr>
<tr>
<td>My child must tune or block out things around her just like I do (Janice).</td>
<td>The inner ear was functioning. The child's hearing is healthy.</td>
</tr>
<tr>
<td>My child can hear (Janice, Marie, Kate, Carol). My child's hearing is normal.</td>
<td>Everything is normal and working properly. The child is able to hear the sounds of speech.</td>
</tr>
<tr>
<td>I do not need to worry anymore (Janice).</td>
<td>The family's involvement with the screening project ends.</td>
</tr>
</tbody>
</table>

continued next page
<table>
<thead>
<tr>
<th>Parents' versions</th>
<th>Lori’s versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>I do not need to return to the hospital for more screening. I do not foresee any next steps in terms of my child’s hearing (Janice, Marie, Carol).</td>
<td>If the parent is concerned about the infant’s hearing in the future, then the family can be referred back to the appropriate professional (e.g., audiologist) through their family physician.</td>
</tr>
<tr>
<td>Right now, my child’s hearing loss appears to be fine, but it may be something I monitor in the future because he did not pass at Stage One (Kate).</td>
<td>Parents can continue to monitor their children’s speech and language development using the developmental milestones that are indicated in the pamphlet.</td>
</tr>
</tbody>
</table>

The versions of the pass results between parents and the screener were consistent with one another in many ways. Parents’ and the screener’s versions emphasized that the infant could hear and that parents would no longer need to return to the hospital for further screening. The screener mentioned more specific details and technical terms including the parameters for the result, such as the three frequencies that were screened as well as the labels for parts of the ear (e.g., inner
ear and cochlea). The screener's version also indicated the detection of an echo. Parents did not immediately mention the detection of the echo as part of their versions of the Stage Two screen results. Some parents mentioned the word “echo” after seeing the videotaped footage and hearing the screener’s description of the result again. Emphasis for parents, however, was not placed upon detecting the echo but more upon the version that their infants could hear.

**Constructed Subjects in Discourse**

The subjects that were constructed in the various accounts included the parents and the various roles assigned to the category of “parent.” Through the first two stages of the screening process, parents were in the role of passive bystanders and receivers of information. They were expected to attend the appointments with their children and help the screener to ensure that the child was in the desired calm state necessary for the screening. Screening program staff contacted parents and arranged the time and location for the screen. For example, in Family Case 1, Janice appeared to view herself as a recipient of a service. When she was called about an appointment for Jenny, she would arrange to be at the appointment at the scheduled time and place. Once the parents received a pass result, parents’ involvement with the screening program ended. Parents could contact their family physician, if they had any concerns about their child’s speech or hearing in the future. The family physician could then refer the family to an audiologist or other professional in order to arrange further assessment. Parents were required to be the initiators of action if any other concerns arose in the future. The parent in the present investigation who received a refer result at Stage Two (Family Case 5) described the need to play an
active role in initiating interactions with the screening project. She reported that there did not exist a plan for parents in terms of what events would take place at each phase of the screening process.

Lori constructed various versions of parents involved in the UNHS context. She constructed a notion of parents who were open and trusting of the system. Some parents in the present investigation, such as Janice, were described as being open to the screening process and trusting of the system or project. By presenting a version of parents in this way, it was possible to consider alternatives that countered the presented version. For example, if Lori constructed some parents as open and trusting, then it was also possible to consider the construction of the alternative, parents who were not open or trusting. This approach of considering alternative and contradictory versions is associated with the examination of the rhetorical organization of talk (Edwards & Potter, 1992). The version that is presented can be considered, as well as hypotheses about a possible alternative version that it may be constructed to counter. In this way, it can be seen how different versions or interpretative repertoires can be used to construct alternative and often contradictory versions of events (Edwards & Potter, p. 166). The presence of tensions and contradictions between repertoires demonstrates that the discursive resources that people draw on are inherently dilemmatic (Billig, 1991; Billig et al., 1988).

Lori's use of the words "open" and "trusting" conjured for me a related notion of "acceptance." I wondered if Lori's construction of parents was related to a version that parents differed in their degrees of acceptance (i.e., being more or less accepting) of the screening procedures and the screen results. I wondered if a
version was created where more questions about the screening procedure were associated with parents' suspicion and skepticism about the credibility of the screener and the screening procedures. Parents who asked more questions could be constructed as less trusting of the system. Lori also constructed a version of parents where asking questions was associated with higher levels of parental anxiety. In this constructed framework involving trust and acceptance, then, the act of asking questions seemed to carry a negative connotation. Asking questions was associated with a description of parents who were more anxious, less open, and less trusting of the screener and the screening process.

In contrast to parents, there was also a category of individuals referred to as screeners, nurses, technicians, and audiology assistants. In these interactions, Lori constructed herself explicitly in her accounts as a technician and audiology assistant who worked within an audiology department in a children's hospital. She also fit within a category of screener, although Lori distinguished herself from the group of screeners who performed the Stage One screens. Lori could be labeled as the initiator and leader within each interaction. Lori typically initiated each shift in topic during the screening interaction. A new topic was often introduced in the form of a yes-no question. Lori also took the lead in much of the interaction with her inclusion of requests and declarative statements. Lori held the floor for much of the screening interaction. Parents' responses were often in the form of one-word answers, such as "yes," "no," or acknowledgment tokens, such as "okay." Lori's initiations with parents, which involved personal or casual talk, frequently involved direct talk with the infants rather than the parents themselves. Lori commented about the physical appearance
or behaviours of the infants in a soft, high-pitched voice spoken directly to the infants, but she appeared to be inviting comments from parents (e.g., "Mom's probably busy with all you boys."). At times, these comments resulted in parents’ responses. This way of initiating dialogue with parents acted to maintain the attention upon the infant during the interaction.

Most of the mothers in this investigation did not put forth their claims during the screening interaction with Lori. When they were put forth, Lori responded with acknowledgment tokens and a swift topic change. For example, when Kate provided a brief description that claimed that she was provided limited information at Stage One, Lori responded with the acknowledgement token, "okay" and said "alright," which appeared to signal Lori's act of shifting to a new topic. In this way, Lori has directed the talk away from further discussion about Kate's account of the Stage One screen and towards Lori's new topic of reviewing of the Stage One screen results and describing the screening procedures. Lori maintained conversational control over this new topic in various ways. She did not incorporate questions into the conversational sequence and also used a series of declarative statements. Through topic shifts, incorporating fewer questions to parents, and using more declarative statements, Lori was able to guide the direction of the conversation, and, therefore, limit the number of claims that parents could put forward and elaborate upon during the interaction.

When parents put forth claims regarding feelings of concern about not passing the Stage One screen or negative evaluations of the Stage One screening procedures, Lori re-directed the conversation in certain ways. In Family Case 1,
Janice provided an extreme version to describe Jenny’s lack of responsiveness to sounds in her environment and also contrasted these claims with an extreme version indicating her son’s immediate responsiveness to sounds from birth. Lori, though, did not immediately address Janice’s expression of concern. Lori expressed some skepticism to Janice’s claims. This skepticism was evident through Lori’s use of questioning. She asked questions to introduce other factors that may have influenced Janice’s observations, such as her memory of the events and the age of her son when she observed his responsiveness to sounds in his environment. These questions acted to introduce claims that could counter Janice’s version of events.

In Family Case 4, Lori also shaped the direction of the conversation. Through Lori’s use of questions in Extract 24, Lori was able to manage the direction of the conversation. She was able to limit the initiations from Carol with her use of yes-no questions, such as “Was that the only reason you were concerned- Was just the fact that he: (.) had not passed that? and “So there weren’t any other signs that were causing (concern)?” With her concluding remark, “Okay, so that’s a- a relief to you I guess,” she was also able to shift the focus of the conversation from more negative feelings, such as concern, to more positive feelings, such as relief. Although Carol’s purpose for putting forth her claim of concern may have been to seek more information about the Stage One results, or to express feelings after Stage One, Lori moved the conversation in a new direction that did not include either elements of information provision or expression of feelings. Instead, she re-focused the discussion on aspects other than the Stage One result itself (i.e., “other signs”), such as a description of Thomas’s behaviours with respect to hearing. The concern
associated with the Stage one result were de-emphasized in the conversation and replaced with a discussion of Thomas’s behaviours where Lori was able to highlight feelings of relief that could be associated with the Stage Two results.

What was consistent about Lori’s approach was that she presented the screen results in a way that parents viewed as factual and trustworthy. Parents did not appear to doubt the truthfulness of Lori’s claims. How was this accomplished? In the family cases that were described in this chapter, devices, such as the establishment of consensus and corroboration, distanced footing (e.g., removal of the agent in the description), inclusion of detail and narrative, and systematic vagueness worked to build up the facticity of Lori’s descriptions. In addition to these devices, parents’ constructions of the facticity and trustworthiness of Lori’s accounts may also have been associated with the category membership that parents assigned to Lori.

According to Potter (1996), speakers may indicate that their descriptions are facts through working up category entitlements. Category entitlements refer to categories of people who are treated as having specific knowledge. With these particular knowledge entitlements, these categories of individuals may provide descriptions that are viewed as more credible, factual, and reliable, simply as a result of being assigned a certain category membership (Potter). For instance, individuals categorized as doctors are assigned a certain level of credentials and training and treated as if they have specialized knowledge about medicine and treatment of illness (Potter, p. 114). A doctor may be expected to possess this knowledge, but not asked about how this knowledge was acquired. Doctors may be
simply expected to know certain things, because they are members of a category “doctor.”

Category entitlements can be worked up to build the credibility and entitlements of speakers. How did Lori, the screener, build up her credibility and knowledge entitlements as a screener? Jayyusi (1984) described five criteria that can be used to assign category membership in an interaction. These criteria include 1) the physical appearance of the individual (perceptual availability), 2) the way the individual acts (behavioural availability), 3) the individual’s own claim of category membership (first-person avowal); 4) others’ claims about individual’s category membership (third-person declaration), and 5) the presence of official badges or documentation (credential presentation).

After examining Lori’s category membership with respect to Jayyusi’s (1984) criteria, Lori’s category membership was not clearly decipherable. First with respect to perceptual availability, she did not wear a uniform and, therefore, her physical appearance did not suggest a particular category membership. She was youthful in appearance but I believed above the age of thirty-years-old. This suggested to me that she was likely was not a novice in her profession. As for behavioural availability, Lori appeared to take the lead in the interactions. She often initiated requests and questions. She directed the parents into positions for the screens. She informed parents of the state of the infant that was most optimal for the screening. She also provided suggestions and recommendations to help the child reach this optimal state. In her talk about the screen results, she used terms, such as “emission,” “pitches,” “frequency,” “tones,” and “cochlea.” The use of these terms suggested that
she had particular knowledge related to the screen and to hearing. She was proficient in using the screening device, how to access the results from the device, and how to download the results using the computer. Lori also indicated in her descriptions knowledge about hospital procedures, such as the need for the blue hospital card. She also had a link to each family's physician or pediatrician, through her action of forwarding the results to each child's doctor.

In terms of first-person avowal in the interactions, Lori claimed a particular category membership in two instances, first as an "audiology assistant" in her interview with me, then as a "technician" in the screening interaction in Family Case 1. In all other interactions with families, she did not claim a specific category membership. Neither "audiology assistant" or "technician" conjured a particular set of knowledge entitlements other than broad aspects of hearing and technology. How did she assist in audiology? What did she do as a technician? As for credential presentation, Lori did wear a badge, which identified her as a staff person at the hospital. She also had access to the pamphlets regarding UNHS, which she distributed to parents near the end of each appointment, and provided documentation of her link to the provincial UNHS Project. In terms of third-person declaration, I referred to Lori in my consent forms for parents as a screening health care professional. Parents may also have heard of Lori's category membership when talking to the screeners at Stage One or when talking to the audiologist as they were arranging the Stage Two appointments.

In this way, Lori's criteria were quite diffuse and, therefore, I perceived it would be difficult for parents to assign Lori to a particular category. In fact, during the
interviews, the parents did not assign Lori to a particular category membership of screener, nurse, technician, or audiologist in their accounts. Lori was referred to by name, as “she,” or as “this one.” Her placement of work at the hospital within a specific department, her knowledge of particular hospital procedures, her link to family physicians, and her hospital badge all may have contributed to an assignment to a broader category of hospital worker. Working in an audiology department in a hospital in itself may carry with it a certain level of credibility, whereby Lori was simply perceived as a reliable source of information about hearing. Lori’s behaviours during the screen, such as her description of the screening process and her taking the lead during the interaction, may have carried great weight, because she behaved in a manner that indicated that she did have the knowledge and ability to perform the screen. Overall, then, although Lori’s exact title may not have been clear to parents, her position in a specific department in a health care or medical context may have helped to work up parents’ accounts that Lori was a knowledgeable and credible source of information about newborn hearing screening.

Summary

Through the description of 5 family cases, I have presented the predominant outcomes of my analysis of 14 interactions within a provincial UNHS program. Participants in the present investigation varied in the contexts in which they put forth their claims and differed in their accounts of the screen results. In the screening interactions, screener talk was prevalent and included numerous devices of factual accounting, whereas parent talk was minimal and involved few initiations.
CHAPTER FIVE: DISCUSSION

Overview

In Chapter Three, a discourse analytic approach was described as an ideal fit with my interpretive framework and the research questions of the present investigation, because of its emphasis upon meaning-making through discursive acts within multiple contexts of talk and interaction. In this study, I have suggested that the meanings that the parents and the screener assigned to the hearing screen results were constructed within an interactional and discursive framework. In the previous chapter, I presented examples of ways in which different accounts of the screening process and the screen results were constructed within different contexts of the interaction. The focus of Chapter Five is on the discussion of the predominant findings of the present investigation within the framework of the two research questions.

1. What was the discourse surrounding the disclosure of re-screen results in interactions in one UNHS program and how was it constructed?

2. What were potential social influences (e.g., social structures, institutions, and policies) that shaped these constructions?

Relevant literature concerning parents’ experiences in UNHS programs, as well as communication within health care contexts is discussed with respect to the findings from this study. Implications of the findings for existing practice are also presented. The chapter concludes with a description of particular limitations of the investigation, as well as potential directions for future research.
Discourse Surrounding Disclosure of the Re-screen Results

The discourse at Stage Two included language use that indicated consistency, inconsistency, and variation. The inconsistency and variation in accounts that was described in Chapter Four occurred through the influences of the social contexts on the interactions and the sequences of conversational turns. Variation and inconsistencies between accounts highlighted ways in which meanings of the screen results were constructed.

Construction of Meaning in Context

In previous investigations of parents' responses to screening, parents have reported satisfaction and responses in favour of UNHS programs (Baringer & Mauk, 1997; Clemens et al., 2000). Parents in the present study reported satisfaction with the way that the results were communicated to them at Stage Two. They described receiving an adequate amount of information about the screening procedure and screen results. Parents also reported feeling satisfied with the screener's approach at Stage Two, especially when providing descriptions that compared the Stage Two screener's approach with the Stage One screener's approach. Parents in the present investigation indicated in their descriptions that they had received very little information about the Stage One screen procedure and the meaning of the results. Some parents also suggested that the approach of the Stage One screener was more brisk and lacking gentleness with respect to the insertion of the probe tip.

Feelings of worry or stress after the first stage of screening have not been reported consistently in previous investigations (e.g., Weichbold & Welzl-Mueller,
2001). For example, Watkin et al. (1998) found that only 15% of mothers reported feeling "fairly worried" after the Stage One screen. Also, Stuart et al. (2000) found that mothers of infants who received a refer result did not report stress levels that were significantly different from mothers of infants who received a pass result. In contrast to these investigations, the research findings from the present investigation did not indicate different degrees of emotion that could be broadly applied across all parent participants. Instead, the emotions expressed were part of a process of constructing context-specific versions of the Stage Two screen.

These differences in findings could be attributed to the difference in focus and in method of the investigations. For instance, most of the research pertaining to parents' experiences of UNHS has involved parent self-report measures, such as questionnaires or surveys (Abdala de Uzcategui & Yoshinaga-Iltano, 1997; Barringer & Mauk, 1997; Hergils & Hergils, 2000; Vohr et al., 2001; Watkin et al., 1998; Weichbold & Welzl-Mueller, 2001) or a specific measure, such as the Parenting Stress Index (PSI; Abidin, 1995, in Stuart et al., 2000). Other qualitative studies have been conducted (e.g., Magnuson & Hergils, 1999), but no other studies have investigated in-depth the talk and interactions of the screen. Previous investigations examining parents' responses in UNHS contexts have predominately focused upon the outcomes of screening, such as parents' emotional reactions. The current investigation was focused upon the process of screening itself.

In previous research related to parents' experiences of UNHS, findings have been indicative of various emotions including negative emotions of sadness, frustration, and confusion, and positive emotions, including feeling satisfied,
encouraged, and comforted (Abdala de Uzzcategui & Yoshinaga-Itano, 1997). Similarly, parents in this investigation produced accounts that communicated positive and negative emotions. However, in this investigation, the emotions communicated in parents' accounts varied depending upon the particular context of a situation (e.g., who they were speaking to, the timing during the screening appointment).

For instance, Janice expressed a high degree of concern during her interaction with Lori both in her verbal and non-verbal behaviours, but then indicated a lesser degree of worry when talking with me. Parents, such as Kate and Marie, provided no outward indications of concern during their interactions with Lori, and, yet, both expressed some degree of concern before receiving the Stage Two pass results. Carol did not report feeling a great deal of anxiety during our interview, but then expressed acknowledgement of her facial expression indicating anxiety and concern while waiting for the result. She had not discussed this feeling during our initial interview, but only talked about it as concern when she had an opportunity to see it on video herself.

Interestingly, if left to the interview portion alone without the video review component of the interaction, Carol may not have provided an account that indicated anxiety or concern about her infant’s hearing status during the wait period. She constructed her feelings of concern during the screening of Thomas’s ear through the act of watching the videotape and directly addressing it in our follow-up interview. Given the variability of Carol’s reactions, a single label indicating her degree of concern or anxiety did not seem appropriate. In other words, if asked
about how anxious or worried Carol felt during the screening, then Carol would provide a different answer depending upon where and when she was being asked the question. These findings underscored the need for me to consider the specific interactional context for each of the participant's responses and constructed meanings.

Construction of Versions

The language of the screener included the presence of factual versions. Factual versions included specific terms and technical jargon, ambiguity or vagueness in talk, distanced footing (e.g., omission of agent of action), as well as language supporting consensus and corroboration in claims. Lori was able to distance herself from the claims being made and presented versions where her personal stake and interest in her descriptions was minimized. The screener was able to distance herself from being the author or originator of statements and presented descriptions of entities that simply existed. She presented herself as separate and uninvolved in the process of the construction of an entity, such as an "emission." She was able to communicate that an emission simply existed regardless of her participation in the interaction. In contrast, the mothers in this investigation formulated versions that indicated personal stake in the versions that they described. Mothers incorporated close footing into their descriptions so that their presence in the context was made known. They presented versions of being observant mothers who each had a personal interest in the screening outcomes and the well-being of their infants.
The discourse surrounding the screen also included various versions or interpretative repertoires constructed around the two types of screen results. Versions of a pass result included pass as indicative of biological functioning; a pass as a physical, observable response to sound; and pass as the detection of an echo through the use of the handheld screen device. All participants portrayed a pass result favourably and associated it with positive outcomes. The repertoire of a refer result was much more complex and was associated with variation in participants' descriptions.

*Parents' constructions of meaning of re-screen results.* After Stage One, some parents reported feeling worried, because the result was associated with the possibility of an infant having a hearing loss. Other parents reported a level of anxiety prior to the Stage Two screen that was associated with parents' observations of their infants' behaviours in response to various sounds. For one parent her account of worry was associated with her inability to see her child responding to sounds around her. Other parents reported feeling less anxious after seeing their children responding to sounds in their environment. This finding was consistent with suggestions from previous researchers (e.g., Weichbold & Welzl-Mueller, 2001) that parents may become reassured and less concerned about their infants' hearing ability after they have had opportunities to observe their infants' behaviours in response to sounds. Seeing evidence of an infant's hearing ability in the home environment provided some parents with reasons to feel confident and comforted that the infant could hear.
If asked about the construction of the results with respect to their children's behaviours, then, many of the parents reported feeling confident and little concern about their infants' hearing abilities. When viewed from the perspective of not having a definitive confirmation of hearing loss, however, the screen results were approached with varying accounts of concern. For some parents, the level of anxiety described was associated with the wait time needed before a result was detected on the handheld screen device. One parent in the present study who reported feeling confident about her child's response to sounds also reported that she did have a “niggling doubt” about her child's hearing ability and wanted to wait for the outcome of the Stage Two screen before making any conclusions about her child's hearing. In previous investigations of parents' responses to screening, some parents have reported feeling concern or worry in response to participating in two-stage screening protocols particularly after Stage One (Clemens et al., 2000; Vohr et al., 2001). Clemens et al. found that approximately 80% of mothers reported feelings of worry about infant hearing status prior to the Stage Two screen. Parents in the present study who experienced the second stage of screening also described feelings of uncertainty and anxiety in response to the refer result at Stage One. It is possible that negative feelings of the screen are associated with the act of referral. This idea is discussed in the following section.

The construction of a refer result. In health contexts, the word “referral” can carry with it meanings of uncertainty and ambiguity. There is an uncertainty concerning whether a problem exists. What has been found in previous research (e.g., Chenail et. al., 1990) involving physicians' referral to pediatric cardiologists is
that there is a discrepancy between how physicians and patients construct the meaning of the referral. When physicians may not view a referral as a cause for concern, parents may view a referral as worrisome, because it has been constructed as unhealthy and associated with illness.

These seemingly contradictory messages have been referred to as a "double bind" in health communication (Kreps & Thornton, 1984). In the case of a referral, parents may be told that the result is not serious or a cause for concern, but that they still needed to return for another screening. According to Chenail et al. (1990), a referral "...may evoke the worry that the referral is not routine, not just a precaution, but rather that it is something about which to be seriously worried" (p. 166; also see McNamara, 1987, 1988). Parents might feel immobilized because they do not know what to think or do, and may try to create some sense out of the contradictory messages (Chenail et al., p. 175). For parents in UNHS programs, the referral may be associated with one message that the result is not a cause for concern, and, also, another message that the result is serious enough that further screening and another trip to the hospital is needed.

These incongruous messages can be difficult for families to reconcile (Chenail et al., 1990). Some families may position themselves with one message or another or, in some instances, they may transform the act of the referral itself or the labels associated with the referral into versions that portray even more serious acts and labels (Chenail et al., p. 177). For example, parents may transform the act of referral in a UNHS program and labels of "did not pass" or "refer" into a more severe account that the child may be deaf. In this study, parents, such as Janice and Marie,
constructed versions of a refer result that included the possibility of hearing loss. Gail and Kate also referred to events where their families attempted to check their infants' hearing in various ways, such as by snapping their fingers or banging pots and pans and waiting for a response.

The presence of the double bind in health contexts may not only be difficult for parents to receive but also a challenge for health care professionals to deliver effectively. With regard to referrals, health care professionals must communicate results to families in ways that do not raise undue worry or concern for them. At the same time, health care professionals must also communicate the importance for families to follow through until the child's status is confirmed (Chenail et al., 1990; Weichbold & Welzl-Mueller, 2001). Not only must health care professionals learn to present medical information (i.e., the "facts"), they must also learn to frame the medical condition for families in a way that is meaningful and understandable (Chenail et al.). In this study, Lori, the screener, discussed her need to be neutral in her approach with parents by being careful not to lead them in one direction, indicating that there was no reason for parents to feel concerned, or another, indicating that the child was deaf. She referred to her approach in dealing with the double bind when she stated, "I don't want to make it sound like it's nothing and frivolous but at the same time it's not necessarily the end of the world either." She mentioned that she tried to communicate a result in a way that was "cautious but not alarming." In this description, Lori appeared to be presenting her approach where she did not want to cause undue alarm for parents. She also wanted to make sure
that parents did not dismiss the result. She tried to indicate to families that the result should be followed up until the child's hearing status was confirmed.

I believe that this approach with parents served a number of purposes. It seemed to reflect the screener's and the screening project's general objective of minimizing the levels of anxiety that parents experienced during the screening process. At the same time, I believe the project aimed not to lose parents to follow-up. In this way, then, I believe the interests of the program were also being served. At the same time, I also felt that Lori's accounts were used to communicate to me a specific and complex aspect of her role as a screener. Communicating a Stage Two screen result was not simply a straightforward process of transmitting information. Communication required the sensitivity of the screener to parents. Being able to find a balance in presenting the results in a manner that did not evoke parents' anxiety levels and at the same time instill a sense that the outcome was important and required further attention was a complex process. Another hypothesis is that presenting a description of the screen results in this manner helped to protect the screener from being portrayed as directly responsible for any reports of parental concern that were associated with the Stage Two screen. By putting forth a claim that the screener had attempted to present parents with a neutral, balanced account of the results, the screener was able to counter possible alternative claims that she had provided a one-sided, exaggerated claim that increased parents' levels of anxiety.

The presence of a double bind within health contexts indicates that there is a need to be attentive to language use in various contexts. The different versions that
were identified in the present investigation had various social implications. These implications are described in the next section.

The Social Implications of Contrasting Versions

In the present study, the verbal and non-verbal actions of the screener had an impact on the ways in which parents understood the screening process and the meaning of the screen results. This interactional component of meaning-making has also been termed relational communication. Relational communication refers to ways in which individuals relate to one another and continually negotiate and mutually define messages with one another through interaction and communication (von Friederichs-Fitzwater, Callahan, Flynn, & Williams, 1991). In the present investigation, I identified two types of social implications of the relational communication process that emerged in the UNHS project: the presence of unvoiced concerns and the presence of misalignments in parents' and the screener's accounts. It is important to note that there may be a number of other possible social implications of relational communication that may be discussed and considered within UNHS contexts. However, because the delineation of social implications of relational communication was not the focus of the present investigation, I have limited my discussion to two types of implications that emerged for me after analysis of the data, and which I believe merit further exploration and consideration in the future.
Unvoiced Concerns

Concerns that parents raised in their accounts included uncertainty about their children's hearing status, feeling ill informed about the screening procedure, and, in one case, feeling discomfort with the insertion of the probe tips into the infant's ears. Why did parents share their concerns in one context rather than another? More importantly, why were these concerns not raised during the screening interaction with the screener, where it was possible to receive informational and emotional support from the screener? I wondered about the extent to which parents felt that they could express their ideas and concerns during the screening interaction.

I believe that the presence of parents' unvoiced concerns was a product of the structure of the disclosure meetings. The screener entered the screening context with a set of tasks to complete in a pre-determined amount of time. In order to complete these tasks, the screener incorporated goal-directed talk (e.g., asking yes-no questions, initiating topic shifts) that was focused upon two primary tasks: the completion of the Stage Two screen with the infant and communication of the results to all relevant parties, including the parents and the screening project.

I also wondered whether parents did not voice their concerns or ask questions because the screening context was embedded in a broader biomedical framework, where collaborative health care professional-consumer interaction was not the norm. Parents' unvoiced concerns in the screening context may be associated with a medical model that is conducive to asymmetry rather than symmetry in interaction.
Asymmetry based within a medical model. There have been some concerns that current health care contexts, particularly those involving physician and patients, are lacking a relationship-building component. Within health contexts, a tension may exist where health care professionals must attend to the "interpersonal issues of the interaction while attending to instrumental medical tasks" (Walker, Arnold, Miller-Day, & Webb, 2001, p. 48). This tension may result in one set of issues superseding the other within interactions. In the case of physician-patient relationships, the instrumental medical aspects have often been prioritized over the interpersonal aspects (Walker et al., p. 48).

This type of asymmetric level of interaction is evident in other health care contexts, most documented has been the interactions that have occurred between physicians and patients. The extent of patient participation in medical encounters has also been a focus of discussion with regard to communication in health care contexts (e.g., Roter & Hall, 1993; Street, 1991). Patient participation includes verbal acts, such as asking questions, providing opinions on matters, expressing feelings of concern, and describing health experiences (Street & Millay, 2001). Patients generally talk less than health care professionals, and verbal acts of patient participation represent less than 10% of patients’ utterances (Street, 1992). Street and Millay found after analyzing 9 videotaped physician-patient interactions that verbal acts of patient participation occurred in less than 7% of the total utterances of patients and that physicians performed communicative acts that promoted patient participation, such as partnership building and supportive talk, in less than 2% of the physicians’ total utterances. Partnership building statements have been described as
"communicative acts that encourage patients to discuss their opinions, express feelings, ask questions, and participate in decision-making" (Street & Millay, p. 66). Supportive talk refers to statements that indicate interpersonal sensitivity, such as statements of support and empathy (Street, 1991).

In another study (Walker et al., 2001), the researchers investigated the physician-patient relationship and found that the health care professionals often were in control of the interactions and patients were often in a subordinate position. The physicians indicated control in the relationship by giving directions and instructions and asking patients for information. Also, roles were negotiated in the relationship where the physician accepted the role of expert and the patient accepted the role as layperson.

Some of the asymmetries in relational control and differences in role assignment could be seen in the screening context. The screener could exert control in the interaction through her use of questions, her use of directives to position the parent and infant with respect to herself, her initiation in changing topics during their interaction, and her provision of recommendations of how to help soothe their infants. Parents, at the same time, exhibited very little control in their interactions with the screener. They initiated very rarely during the interactions and volunteered few statements and questions. In terms of role assignment, the screener appeared to be in the role of information-provider and director of the screening interaction. Parents took on the role of information receivers and followers.
Potential Misalignments in Accounts

Prior to conducting this investigation, I had expected that after the Stage Two screen was conducted, a "successful" screen from the screener's perspective would be where the screener and parent had accounts of the screen results that were aligned with one another, where the meanings that were constructed indicated more similarities rather than differences. The findings of this study indicated several inconsistencies or misalignments between the versions that Lori, the screener, and the parent participants provided. These misalignments could be construed as purposeful or non-purposeful. Under consideration would be whether the misalignment within the account is actively being used for a specific objective. For example, the screener purposely avoided the use of the word "fail" in her talk with parents, but used it frequently in her interactions with me. In this sense, a misalignment in the screener's accounts has been used for the specific purpose of attempting to prevent feelings of parental anxiety that may be associated with the word "fail." Other misalignments could be construed as non-purposeful.

For example, the screener and the parents' different constructions of the wait period at Stage two could be viewed as a non-purposeful misalignment. There were a number of unforeseen factors, such as time and the physical positioning of the participants that appeared to influence the construction of the wait period. For example, the construction of a wait period could be different if a parent was comparing the period of time it took to obtain a result from one ear to the other. Carol constructed an account where she stated that one ear took longer to obtain the result than the other ear, which ultimately led to a different construction of the
wait period. What was also at play was the physical positioning between the parent and the screener. Carol appeared to construct the wait period as more anxiety provoking when she was able to see the screen device’s monitor in the screener’s hand. Carol also explained that this affected her differential reaction to the screening of the infant’s left and right ears. Carol indicated that she was not able to see the screen device for the first ear, but was able to see it clearly for the screening of the infant’s second ear. In contrast, Lori indicated a general lack of awareness to the parents’ reactions while waiting for the result. The screener’s attention to the screen device and to the infant while waiting for a screen result confirmation was in misalignment with the parent’s construction of the wait period as indicative of a problem with the infant’s hearing.

Misalignments in accounts can also be considered as opportunities for misunderstandings to occur within the interaction. In Chapter Three, I described how the potential for misunderstanding could occur as an individual carried forward constructed meanings from previous contexts into new or novel contexts (Gergen, 1994). Previous meanings that have been constructed in interaction and within previous relationships can be carried into new contexts and applied. Through interaction, these meanings may be shared and may lead to different social implications. One possible implication is that certain meanings are passed from relationship to relationship through interaction and become embedded in a culture and may eventually be viewed as common sense (i.e., how language is constructive).
Another alternative is that the new meaning and previous meanings collide, which is where the possibility of misunderstandings may occur. For example, parents coming into the UNHS context were entering a context that was novel. None of the parents had described prior experiences with UNHS. As they entered this context, they brought with them their meanings of what it was to be hearing. In one case this meant a construction of hearing that was based upon the parent's relationship and previous interactions with a first-born child. A parent who has not had any prior experience in a hearing screening context may construct a meaning of a refer result at Stage One as a sign that the child has a hearing loss. In the screening context, however, the constructed meaning of a refer result at Stage One did not favor a version that the infant was deaf, because the majority of infants who receive Stage One refer results typically receive pass results at Stage Two. A misunderstanding is possible, because the parent may enter into the screening context with a constructed version that is contradictory to the version of the screening project.

From the perspective of the screener, a misunderstanding was also possible. For example, in the present investigation, the screener, Lori, constructed a claim that a parent's lack of knowledge about Stage One could be attributed to the possibility that parents did not recall specific details about what they were told at Stage One. She included in her claim a description of her own experiences as a parent, the amount of information that parents receive prior to discharge, and the number of other activities or events that parents need to consider in addition to the hearing screening. Screeners may carry forward meanings that have been constructed in
previous contexts (e.g., experiences as a parent) into the screening context as they disclose results to parents. Parents, though, may bring forward their own constructed meanings from the Stage One experience. Kate, for example, in Family Case 3 indicated that her view of the Stage One screen was based upon her evaluation of the amount of information that the screener provided, rather than her recall of the events (i.e., Lori's version). In this situation, the screener constructed meanings that were rooted in personal accounts of experiences as a parent that were not in line with the meanings that the parent had constructed.

Therefore, it is possible to see how the UNHS screening context can be viewed as a novel context from both the parent's and screener's perspective. The parents in this investigation did not report having knowledge about or experience with UNHS prior to their infants' Stage One screens. Also, the screener did know the parents prior to the Stage Two screen; therefore, a novel context was created each time she met a parent who was not previously known to her. Regardless of being novel contexts for both the screener and the parents, the participants in this investigation were carrying forward the meanings that were created in previous interactions and relationships and applying them into the novel contexts. When this occurred, the possibilities for misunderstandings existed.

This notion of purposeful and non-purposeful misalignment and the potential for misunderstanding can be described with respect to issues of relational control within the interaction. Are these misalignments and their associated outcomes being used to meet the particular objectives of a particular program, group, or individual? Are the misalignments and, more generally, the constructed versions consistent with
a certain group's underlying goals and objectives? For example, a program's objective may be to reduce the anxiety and concern experienced during the screening process. The misalignment between Lori and the parents during the waiting period, where parents exhibited non-verbal behaviours indicative of anxiety, could be viewed as inconsistent to this objective and, therefore, an undesirable outcome. In this instance, the program may devise strategies that could attempt to align the diverse accounts associated with the wait period. The potential impact of broader social structures on the talk of the screen in this investigation is described further in the next section.

Societal Influences on Meaning Construction in the UNHS Context

As I noted in Chapter Two, UNHS programs are often rooted in multidisciplinary health care contexts. In the present investigation, the screening interactions were also embedded within a particular health care context. Parents and the screener constructed through their talk ways that their roles were embedded within a biomedical framework. For example, the screener in her talk described aspects of her role in terms of being not only a member of the UNHS project staff but also a hospital worker. She described having certain screening- and hospital-related tasks that she needed to complete during each half-hour screening interaction. Lori discussed her need to obtain the parent's signature for a hospital consent form, the parent's need to obtain a hospital card, and her need to communicate the results to the infant's physician. Consistent with the asymmetries associated with health
communication within the medical model, Lori indicated her need to convey information and "facts" to parents and thus serving a role as an information provider.

For example, on some occasions the screener's talk was very specific and at other times it was more vague and ambiguous. Within the context of the screening interactions with parents, these differing levels of specificity in talk appeared to serve a particular purpose. The screener's talk enabled her to provide information that was portrayed as factual and less amenable to questioning. General and very broad descriptions, when used within a particular part of the interaction, can be portrayed as factual because they are presented as broad generalizations that are less conducive to being undermined. Less questioning and discussion in the interaction would facilitate the ability of the screener to perform the screening activities in the set amount of time.

Through her actions, the screener presented herself as providing a service to parents, where she conveyed information and had the knowledge and skills to perform the screen. At the same time, Lori constructed parents as recipients of the services and information that she provided when she referred to some parents with words such as "open" and "trusting." The screener did not talk about parents in a way that indicated that parents were active collaborators in the screening process. Parents also constructed in their talk ways that they were recipients and receivers of information and services. For instance, Janice described her reliance on being called for appointments to see a health care professional rather than initiating interactions herself. In this way, both parents and the screener were constructing in their actions ways that the screening interaction was portrayed as a one-way provision of a
service where the screener was the guide or leader in the interaction with each parent.

In addition to the impact of being embedded in a broader medical framework, the overarching structure and goals of the screening project may also have influenced parent and screener discourse. Potential influences of the broader screening project framework on the actions of the parents and the screener in the present investigation are described in the following section.

Structure and Goals of the Screening Project

I believe it is important to consider the goals and outcomes of the project with respect to the screening interactions. Does the project desire an interaction with outcomes of collaboration? Partnership? Information provision? How would each of these types of interaction be consistent with desired goals and outcomes outlined for each participant of the interaction? For the parent? For the screener? For example, if the goal of the interaction is collaboration, then what kinds of goals and outcomes for the screener would be consistent with this type of interaction? For example, with respect to the screening project's goal of the infant to be sleeping or in a calm state during the hearing screen, a program could consider where the responsibility for preparing the infant for the screen lies, whether it is with the parent or the screener or whether it is a collaborative effort. How screeners and parents construct this event may have an impact on how the interaction unfolds.

Absent in the talk of the screen or in the print resources related to the screening project was a description of the desired parent outcomes, that is, what the screening project hoped to achieve in terms of parents' experiences of the screen. A
project could consider the outcomes that would be desirable from its perspective, such as to have parents feel as comfortable as possible during the stages of screening and to have parents feel at ease talking about the screening process and the screen results. Greater focus upon parents in the screening project may include emphasis upon such outcomes as parents feeling comfortable initiating topics of discussion, voicing any concerns, clarifying any information that was ambiguous or unclear, and asking questions.

From the screener's talk, it appeared that communication was considered with respect to what not to do, or, in other words, how not to create anxiety or worry in parents, to not use the word "fail," and not to alarm parents. What I felt was missing was more of an emphasis upon what parents and screeners could take away from this process, particularly if parents received a pass result at Stage Two. From a parent's perspective, perhaps desired outcomes of the screening project would be for parents to feel good about their child's hearing ability, for parents to begin dialoguing about hearing and child development, and for parents to feel comfortable in the screening process. From a screener's perspective, perhaps desirable outcomes would be for screeners to feel confident in performing the screen, to feel prepared and comfortable talking with parents about the screen procedures and results, to feel comfortable working with parents to prepare the infant for the screen, and to feel comfortable opening up a dialogue with parents about screening and hearing more generally. It would be interesting to consider how a UNHS program's desired outcomes at one stage of screening were similar or
different from those outcomes at another stage. What would be the social implications of these similar or different approaches?

Also at play within the interactions was a broader audiological framework in which the screening project was embedded. Audiology can be described as a health care profession that is involved in the "prevention, identification, and evaluation of hearing disorders, the selection and evaluation of hearing aids, and the habilitation/rehabilitation of individuals with hearing impairment" (Bess & Humes, 1995, p. 6). Activities in audiology that involve the prevention, identification, and habilitation of disorders are consistent, more generally, with goals of illness or disease prevention and treatment in medicine. In the present investigation, disclosure sessions involved an audiology assistant and occurred within an audiology department in a children's hospital. Consequently, it was not surprising that the discourse of the interactions included references to a medical framework and also to audiology. The screener described an audiologist as involved in training the screener, as a coordinator in the program, and also as a primary person that parents could contact regarding the screening project. It is possible, then, that theoretical assumptions of an audiological framework may have influenced the screener's approach with parents. For example, how would a pedagogy of audiology have impacted the training that the screener received in the UNHS program?

Multidisciplinary committees, such as the Joint Committee on Infant Hearing have put forward recommendations about ways to structure and implement UNHS programs. The Joint Committee on Infant Hearing (2000), for example, has recommended a two-stage two-technology approach. This approach has been found
to be effective in reducing the number of false-positives. As a result, a two-stage, two-technology approach is a favoured approach in many UNHS programs. How has this structure impacted the ways in which parents and screeners construct the screening process? For example, Lori identified herself exclusively with Stage Two. She did not affiliate herself closely with the events and personnel at Stage One. How was this a by-product of having the project structured around "Stage One" and "Stage Two?" What would be the implications of constructing the protocol in terms of shared outcomes and processes rather than with respect to discrete stages?

For example, it is possible to consider in-depth the goals for parent participation and outcomes in hospital prior to discharge and compare those with the goals and outcomes for parents at the outpatient facility. How are they the same? How are they different? Similarly, with respect to screeners, what are the goals and outcomes for consideration when interacting with parents at the screen in-hospital prior to discharge? What are the goals and outcomes for screeners at the outpatient facility? How are these goals similar or different to one another? How are they consistent or inconsistent with the goals and outcomes outlined for parents?

Consideration of these types of questions would be consistent with a more relational or parent-centered approach in screening contexts. A relational approach includes the promotion of communication that counters the acts associated with the asymmetries inherent in the biomedical model. Some aspects of relational approaches are described in the next section.
Relational and Parent-Centered Approaches

Interpersonal communication within health care contexts has been highlighted as an important factor influencing the relations between health care professionals and patients (Ballard-Reisch, 1990; Thompson, 1994). Relationship-building and patient-centered approaches have been associated with improved patient outcomes and an increased understanding of health-related information. There is more attention on how communication can be associated with the establishment of positive relationships with patients. The preponderance of past research attention has been on health care professionals rather than the needs of the patients (Kreps, 1988).

In general, there has been criticism of a focus upon communication as the transmission of information rather than communication as a process of sharing and community (Carey, 1989; Rimal, 2001). As a result, there has been a move from focusing solely on a biomedical or disease-centered approach to a patient-centered approach that attends to the psychosocial aspects of the health care context (Stewart & Weston, 1995). This approach includes greater attention to building a collaborative relationship between health care professionals and patients where health care professionals better understand patients and patients are comfortable expressing their ideas and concerns (von Friederichs-Fitzwater & Gilgun, 2001). Some of my ideas about creating a more collaborative interaction during the screening are described in the next section.
Implications for Practice

The implications that are included in this section represent my attempt to address some of the misalignments that were discussed previously through the incorporation of some of the concepts that have been discussed in this chapter, such as patient-centeredness and relational communication, into a newborn hearing screening context. With greater emphasis on patient-centered communication practices within medical settings, there is also greater empirical attention on the extent to which health care consumers (e.g., patients) are involved in decision-making practices with health care providers (e.g., physicians).

The underlying assumption here is that patients and, parents, in the case of the screening context indeed want to be involved in a collaborative partnership with physicians (Rimal, 2001). It is important not to presume that all parents want to become active partners with their physicians or other health care professionals. I do not want to impose an assumption that a parent-centered model is somehow better for all parents. Rimal identified different categories of patients and how they may differ in their desire to participate. This typology does not take into account the situational specificity of the context. Some patients may be categorized as one type of patient in one situation, but fit into another category in another. That is, some patients may differ in the degree to which they want to participate collaboratively with a professional depending upon the particular context and focus of the situation (e.g., discussion of flu shot vs. cancer therapy).
The Screening Context

One way to build upon the notion of a patient- and relationship-centered approach in health contexts is to conceptualize a medical context as a community context. Within the context of health community, there would be collaboration between people with diverse backgrounds and opportunities to share knowledge with one another in an atmosphere that all participants could view as comfortable. A community context could include health service settings that incorporated information that the community believed was relevant to particular interactions. One example of a way that this notion of community could be applied to UNHS is through a discussion of the setting for the screening interactions themselves. Recall that in the previous chapter, I described the setting for the screening interactions as non-threatening yet unwelcoming. With regard to UNHS, it seems that it is desirable for the infant to be calm and as quiet as possible during the screen and for the parent to feel comfortable and prepared to comfort the baby for the screen if he or she is distressed. There are certain contextual features that are associated with the creation of a calming and soothing atmosphere for infants and their parents. What are ways that these contextual features can be incorporated into the screening context? For example, through the use of paint color, incandescent lighting, a dimmer switch, a bottle warmer, a thermos or electric kettle prepared with warm water, comfortable chairs for parents (e.g., a rocking chair), and pictures on the wall, an environment can be created that acts as an alternative to a traditional clinical or medical context.
What could be the repercussions of incorporating such a context into a UNHS environment? A negative consequence could be that the setting may be viewed as less credible or less professional if presented in this manner, because it may not fit with a program’s, group’s, or institution’s constructions of a traditional, clinical health care context. Hospital settings, for example, are not typically considered warm and inviting spaces. Hospital administrators may be responsible for maintaining contexts that appear plain and sterile with minimal furnishings. A possible reason for maintaining such contexts may include the presence of other priorities that are considered more essential to promoting quality in health care and health services. Also, fiscal constraints in health care contexts may make it difficult for hospital administrators to allocate funds for creating more patient- or family- centered hospital contexts. Another possible reason is that a patient- or family-centered hospital context may not be viewed as a fit with a disease- or illness- centered medical model, which involves focus upon fixing or treating an illness or disease. A plain, minimalist health care setting would serve the purposes of a biomedical model, because the emphasis would be upon including in the context only the instruments or equipment necessary for health care professionals to perform specific goal-directed tasks. Trying to change the health care context may be viewed as distracting from the focus on the treatment of disease and illness.

However, after analyzing the data, I believe there are other factors at play within the context that establish the credibility of a screener and the factual nature of the information. The behaviours of the screener, including the way that she talked about the screening, had a great impact on how she was perceived with respect to
her knowledge about UNHS. According to the analysis, parents may view the results as factual because of the behavioural aspects of the screener. The way that the screener takes the lead in the interaction, guiding the parents through the screen, and communicating the procedures and results of the screen would be ways to inspire confidence in and trust in the words of the screener. I argue that it is possible to provide a balanced approach involving an empathetic and knowledgeable screener in a family-friendly and soothing environment. Another factor that would influence the perceived credibility of the results is the location of the screening itself. Conducting the screen in the hospital, for example, may be in itself associated with a certain level of credibility. It could be argued, then, that the presence of a more warm and family-friendly screening environment should not jeopardize the credibility assigned to the screener to provide factual, trustworthy results.

*Inviting Discussion of Unvoiced Concerns*

As we saw in the last chapter, there were instances where parents discussed their feelings of concern regarding the Stage Two results. In the majority of cases, the screener did not ask the parents about their feelings about the Stage One results or their feelings about the upcoming Stage Two screen. One parent, Janice, responded to the screener’s question about concern and the other, Carol, volunteered information only after the screening had been conducted. What this indicated was that some parents did want to talk about their feelings of concern or worry with the screener. A parent-centered approach would try to incorporate this possibility into the screening environment. A screener could acknowledge parents’ concerns and, perhaps, discuss issues that may have been influencing parents
during the screening. Moreover, in the case of Janice, Janice expressed her concern, but Lori did not respond to Janice's concerns in any way that mobilized the discussion of Janice's concerns forward. Lori moved into her next topic and next line of questioning.

According to Walker et al. (2001), the act of not addressing an individual's concern within health contexts could be termed a “missed opportunity.” It was a missed opportunity for Lori to acknowledge Janice's interest and careful attention to her child's behaviours and hearing ability. These moments when parents expressed concern could be viewed as opportunities to open a dialogue with parents about hearing. The screener could acknowledge the parent's concerns, empathize with her, and also open the discussion about the positive aspects of trying to be attentive to her child's behaviours with respect to hearing. In this way, Janice's behaviours of watching for Jenny's response could be constructed within a positive framework; it was a way that Janice was showing her attentiveness and concern as a mother. A possible activity would be to include a dialogue about hearing and child development. What the parent has noticed, new developments, what the parent is excited about seeing, in addition to what the parent may be concerned about. This dialogue would also connect well with Lori's discussion of the developmental guidelines for speech and hearing. In this way, the screener could further highlight the parent's awareness and attentiveness to her child's development.

In Chapter Four, it was discussed how Lori, the screener, may have constructed parents' questions as negative aspects of the interactions because Lori may have associated parents' questions with parents' distrust of Lori or what Lori
was doing. Questions also were associated with parents’ level of acceptance in the information being provided or the procedures that were conducted. In contrast to viewing questions as indicators of a parent’s level of trust or acceptance with the information shared during the screening interaction, questions can also be re-framed as making positive contributions to screening interactions. Questions may communicate a parent’s interest in the topics being discussed or the activities being conducted during the interaction. In UNHS programs, parents’ questions could be more actively encouraged because they would promote interest in the screening program and hearing and early identification and intervention and more generally the monitoring of child development. Questions could be viewed as a way to promote interest and enthusiasm about the program. Questions could also be viewed as ways that parents are trying to become more active participants in the screening process, by learning more about the screening process and the implications for themselves and for their infants.

**Becoming More Parent-Centered in Screener Talk**

In the previous chapter, we also examined how differently the meaning of the wait period during the screening was constructed. It may be helpful in these instances for the screener to not only be more attentive to the parents during the screen itself, but also to provide some information to parents so that they may construct an expectation about what will happen during the wait period. The screener could share expectations about the approximate time that it may take for the screen to be conducted and reasons that the screen may vary in length from one ear to the other. Moreover, the screener could discuss with parents that a lengthy
wait time is not an indication of hearing loss. It may simply indicate a need to repeat
the screen until a result is obtained. The screener could at times also shift her gaze
to the parent to indicate her interest in the parent as well as the infant during the wait
period.

Asymmetries in relational control and different role assignments may have
influenced the extent to which parents in the screening context felt comfortable
participating in the interactions. It is also possible that the screener may not have
supported parents' expressions of concern through the inclusion of patient-centered
communication practices, such as the use of partnership building and supportive
talk. Generally, a screener could try to incorporate more features of a parent-
centered and relational approach within the screening session. This may involve the
encouragement of the parents' questions and encouragement of a positive dialogue
about screening. It could involve less screener-directed talk, such as yes-no
questions and, instead, include more open-ended questions. Also, in addition to
considering the question, "What do I need to accomplish during this screening
interaction?", a screener could in more depth consider the question, "What may
parents want and need from me during this screening interaction?" The screener
could also try to become more attentive to her language use and possible effects of
her language on others. As indicated in the last chapter, there were certain
conversational turns that were paired together. A screener could indicate a
preference for a certain response simply by nature of what words were spoken, how
an utterance was spoken, and when it is spoken. For example, when Lori stated
"you're not concerned..." in her question, she was indicating a preference in her turn for agreement.

In the present study, I also learned how the timing of talk within an interaction influenced whether concerns were discussed. Carol's account indicating concern differed depending upon when she was spoken to (i.e., before or after the screening was conducted). Also, Janice was still developing hypotheses about her child's behaviours after the screening interaction was complete. She was constructing an account that indicated lingering questions well after the screening had already been conducted. In this situation, it may have been helpful if Lori had at some point re-opened the dialogue to discuss Janice's initial concerns.

Opening Up the Dialogue about Stage One

In the previous chapter I described ways that, from the parents' accounts, the Stage One screen was associated with a lack of information. Parents constructed accounts where they said they did not have knowledge about the screen, because they were not given enough information at Stage One. A number of parents in the present investigation constructed quite vivid accounts of events of the Stage One screen through the use of quotes and narratives. Many parents, when comparing the amount of information provided in the Stage One screen and the Stage Two screen, stated that the Stage Two screener provided more information than the screener at Stage One. This may suggest the need to re-examine the information that screeners are discussing with parents at the Stage One screen, especially regarding the process of the screen itself.
There is an opportunity for the screener to become more aware of events at Stage One. A dialogue could occur between the screener(s) at Stage One and the screener at Stage Two about the different versions that they have about the screening process and the results themselves. A dialogue could also occur where screeners discuss their own accounts of conducting the screen and communicating the results to parents. Screeners could compare their constructions of parents' accounts as well.

**Video as a Training Tool**

The study also indicated the variability in accounts that could occur between the screening interaction and the discussion during the videotape review. In particular, for Lori, the screener, there were instances when the screener provided an account of the parents' reactions during the screen that differed from the account that she provided as we were watching the videotape. For example, she noted the interest that parents had in watching what she was doing, and yet her own focus was on trying to obtain the screen result. The use of videotape review may be a useful way to dialogue with the screener about the language and actions of the screen within a training context. The screener could have a way to evaluate her own approach and describe what she foresees as possible implications of her actions, both verbal and non-verbal.

**Theoretical Implications**

The findings of the present investigation may inform theories of curriculum development for training screeners who are involved in newborn hearing screening
interactions. The screening appointment may be viewed as an interaction that is embedded within a particular socio-cultural framework where communication of health information occurs within an audiological setting and, more broadly, a biomedical context. Rather than a training curriculum that involves a one-way transmittal of health information from screener to parent (i.e., information provision), the findings of the present study suggested the potential contribution of considering meaning-making of screen results through constructive and interactive processes. A training curriculum for screeners could incorporate the potential for varied versions of screen results as consequences of the active, dynamic, and collaborative nature of interaction between parents and screeners in UNHS programs.

The discourse analytic approach used in the present investigation provided a way of viewing language discursively as social acts. Talk and texts may be viewed as socially occasioned actions that are embedded within the interactional processes of a social relationship (Edwards, 1997). Moreover, the discursive approach underlying the analysis of the current investigation focused upon the talk of the screen as a social rather than individualistic process in which discursive activities of participants were examined in context.

It should be noted, however, that there are a variety of other ways that the data from this investigation could be analyzed. For instance, data could have been analyzed using a communication model where language may be viewed as a means to represent and transmit an individual's beliefs, thoughts, and intentions to others (Edwards, 1997). Examining the data with such a cognitivist approach may be associated with communication theories of language and linguistics (e.g., Chomsky,
1968; Searle, 1969) where language may be viewed as a representation or map of particular beliefs rather than as socially occasioned acts.

Rather than viewing the data from a cognitive stance, I attempted to examine the data with a lens in social constructionism where various forms of person-world relations (e.g., parents’ constructed meanings of a refer result in a UNHS program) may be constructed through living out particular self-other relationships (Shotter, 1993, p. 12). Language and social interaction within newborn hearing screening programs have not been investigated in previous research. Therefore, examination of person-world and the self-other relationship dimensions of social constructionism may be one way to consider the construction of screen results and the screener-parent relationship within UNHS programs.

With a discourse analytic lens, my attempt was to investigate variation in social practices rather than to represent a particular systematic theory to account for all screening interactions. Shotter (1993) stated, “For although we all may draw upon resources (to an extent) held in common, every voice, every way of speaking, embodies a different evaluative stance, a different way of being or position in the world, with a differential access to such resources” (p. 15).

Limitations of the Study

One limitation of this study was that the same screener was involved in all of the interactions. Also, the interactions involved predominately mothers whose infants passed the screen at Stage Two. The sample was not ethnically diverse and did not include parents who spoke English as a second language. The study also involved
all mothers and no fathers. The mothers who participated in this study were also all under the age of 26 years old. A greater diversity in talk from parents who differed in age and ethnicity would allow for further investigation of the nuances of inconsistency and variability in the talk of the screen.

Similarly, a limitation was the lack of diversity in the types of screening interactions that were examined. I did not observe the interactions that occurred during the Stage One screen. It would have been interesting to have examined accounts of the screen and to have interviewed the screeners and parents at Stage One. Furthermore, I also did not observe the screening interactions when the screener had a more typically scheduled day of 8 to 10 screening appointments. I observed screening interactions when the screener had been scheduled for only two to three screening appointments per day. It would be interesting to investigate similarities and differences in the discourse and pace of the screening interactions when there were variable periods of time available for screeners to interact with parents.

Also, the majority of the families did not experience more than one type of assessment at Stage Two. Typically, when infants do not pass the distortion product oto-acoustic emission (see Chapter Two) screen at Stage Two, the screener will immediately perform another type of screening procedure involving the automated auditory brain response system (i.e., AABR). None of the interactions that I observed involved the use of the AABR. Also, previous research has indicated that parents of children who have been diagnosed with a mild, unilateral hearing loss involving no intervention have reported less satisfaction with the benefits of UNHS (Magnuson &
Hergils, 1999). It would have been interesting to talk to parents whose children who had been diagnosed with a unilateral hearing loss through the UNHS process.

Another limitation of the study involved the issue of reactivity. It is possible that my presence in the room as well as the video camera may have impacted the degree to which parents felt comfortable initiating within the screening interactions. This, then, may have led to findings that indicated a lack of parent assertiveness and higher degree of screener control in the interaction than would have occurred without my presence in the room. I hope, though, that by openly discussing the possible effect of reactivity with each participant during each interview, it would have provided each participant with opportunities to share ways in which their behaviours may have been affected. I should note, however, that none of the participants reported that my presence or the video camera's presence affected the way that the screening interaction unfolded. The screener reported feeling different degrees of awareness to the video camera and me on different days depending upon the length of the interaction and her level of fatigue. She felt that it may have subtly influenced the way that she behaved during the session, because she was aware of my presence and occasionally self-conscious about being observed. She did not report any of the parents' behaviours as distinct from her previous experiences. That is, she did not report that the parents were any more or any less involved in the interactions than in previous interactions where neither the video camera nor I were present. In fact, she referred to specific interactions as typical (e.g., Carol).
Future Research Directions

One future direction for this research would be to analyze the interactions that occur within UNHS contexts with respect to the concepts identified in the health communication literature involving physicians and patients. For example, one could perform a mixed method approach where the talk of the screen was analyzed in an in-depth manner with respect to such concepts as relational control and patient participation. One could begin to look at frequencies and proportions of utterances that indicate different degrees of parent participation. One could also examine the talk of screeners and investigate the extent to which they use parent- or family-centered talk and supportive talk. Because such an approach has not been utilized within UNHS contexts, it represents an interesting and informative way of investigating communication practices and parents' experiences during the screen.

Different approaches to health communication within UNHS contexts could also be explored through incorporating a treatment phase to a research design. For example, future investigations could include one group of screeners in a program who receive training in parent-centered and relational approaches and a second group of screeners who do not receive the same training intervention. Comparisons could occur between the groups through examination of parent and screener discourse or the measurement of different parent outcomes (e.g., anxiety, satisfaction).

Future research could also involve description and evaluation of various words that are used to describe screen results. For example, different constructions that were associated with specific terms and phrases associated with screening
could be examined. Focus groups could occur where parents and screeners discussed meanings that were associated with each set of terms, as well as what was liked and disliked about the terms. Parents' and screeners' constructions could then be compared and contrasted and then discussed with respect to particular screening program's goals and objectives in communicating screen results to parents. Stuart et al. (2000) suggested the possible use of such phrases as “screening indicated need for further testing,” “unable to get the results we were looking for,” or “not cleared for hearing” as opposed to terms, such as “fail,” and “did not pass.” Exploring these and other options in a collaborative atmosphere may be an important way to determine strategies that may be helpful when communicating screen results with parents.

Future investigation could also involve more in-depth analysis of print materials in UNHS programs. Parents and screeners could be provided with opportunities to examine and discuss the print literature that they were provided in UNHS contexts. What did they feel was clear? Unclear? What did they feel was missing? How did they feel about the language used? The pamphlet that screeners provided to parents in the present investigation, for example, could be discussed with parents and screeners. Parents and screeners could dialogue about the content and presentation of particular topics, such as the objectives of the screening procedure, description of the screening process, types of results obtained, roles and responsibilities of parents and screeners, and so on. They could discuss ways that a pamphlet could be made consistent with the goals (e.g., parent-centered
communication practices) and desired outcomes (e.g., promote parent interest in hearing and UNHS) of the screening project.

Also, in order to explore the social impact on the talk of the screen, it may be interesting to explore accounts that are provided at more of a system or project level. For example, a discourse analytic investigation could incorporate the accounts of the directors of the project, the different regional coordinators, as well as administrators at both the Stage One and Stage Two levels (e.g., hospital administrators). The accounts of parents and screeners could also be further investigated with respect to their constructions of the screening context, including a discussion of the setting of the screening interactions (e.g., room, department, and institution) and their description of audiological services, and, more generally, health care services in that setting. In addition, asymmetries in parent-screener interactions could also be investigated using other types of discourse analysis where more in-depth examination of the dynamics of power and the broader social context could occur (e.g., critical discourse analysis).

Another possibility in future research would be to examine in more depth the non-verbal behaviours of the screen. In the present study, specific parts of the interaction were examined more broadly to investigate the construction of the wait period. Future investigation could perform more in-depth analyses of facial expression, eye gaze, distance, and movements during the screening interactions.
Summary

In this chapter I have summarized my hypotheses about the discourse of the screen that was obtained from one provincial UNHS project in Canada. Also, I presented some of the possible implications of the research findings on both research and practice. Generally, I hope that one consequence of this study will be that more attention will be paid to talk and interaction that occurs between parents and screeners during the disclosure of screen results. The findings may encourage screeners to examine their own use of language and the functions and consequences that their use of language may have. I hope that findings from the study will also encourage dialoguing about the various versions of screen results that are possible and the considerable variability that occurs in these versions. In this way, screen results will not be viewed simply as an object “out there” that is reacted to positively or negatively by parents. Instead, it can be viewed as a construction that is based in the language that is used in particular situations and is connected to the dynamics of the interaction and the specific social actions that are functioning in that interaction.
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APPENDIX A: GUIDE FOR INTERVIEWS WITH PARENTS

The interviews were organized into three sections. Interviews with parents began with general questions about the family’s background and, particularly parents’ background experiences and knowledge with newborn hearing screening. A second part of the interview involved discussion of parents’ experiences at Stage One, just before Stage Two, and at Stage Two. The third part of the interview involved a review and discussion of the videotaped interaction between the parent and the screener.

Background Information
1) How many children do you have?
2) Do you have any previous experience with newborn hearing screening?
3) What had you heard about universal newborn hearing screening program before your child was screened?
4) What had you read about universal newborn hearing screening before your child was screened?
5) What did you understand about universal newborn hearing screening before your child was screened?

Overview of Experiences
Stage One
6) Tell me about your experiences with newborn hearing screening up until now?
7) What do you remember about your child’s first hearing screen (in-hospital)?
   a) What was the result? What was your reaction to this result?
   b) Given what you heard from the first hearing screen, what did you think about your child’s hearing status?
   c) What did you understand was going to happen after your child’s first hearing screen?

Pre-Stage Two: Expectations about Stage Two
8) Think back to the time period just before your child’s second screening (at the outpatient facility). What were your expectations about what would happen at this screening? What did you expect to learn about your child’s hearing status?
Stage Two Recollections

9) Now, tell me what you remember about your meeting with the screener at the second hearing screen.

   a) What did you hear about your child’s hearing screen result? How was the screen result described to you?

   b) What was your reaction when you heard the screen result?

   c) When you heard the result of the hearing screen, what did you understand about your child’s hearing?

   d) When you left the meeting, what was your understanding of any next steps that were needed with respect to your child’s hearing?

   a) How did you feel about being videotaped? How did you feel about my presence during your meeting with the screener? Do you believe the videotaping or my presence had an impact on your meeting?

Videotape Review

Finally, I reviewed the videotape of the disclosure session with parents. I communicated to parents that we could pause the tape at any time to discuss any piece of the videotaped interaction that was of interest to them. After reviewing the entire tape, I asked parents to provide any comments about what they viewed on the videotape.

10) How did you feel after watching this videotape? Are there any other points in the videotape that you would like to talk about?

Following parents’ discussion of points of interest in the videotape, I returned to segments of the videotape that I identified as points of interest and asked them questions about specific points in the meeting.

Examples of questions that I asked include the following:

11) I noticed that you paused here, can you tell me what you might have been thinking here?

12) What were you thinking after you heard this statement?
APPENDIX B: GUIDE FOR INTERVIEWS WITH THE SCREENER

The interviews were organized into three sections. Interviews with the screener began with general questions about the screener's role in the screening program and training background. A second part of the interview involved discussion of the screener's experiences just before and during Stage Two. The third part of the interview involved a review and discussion of the videotaped interaction between the parent and the screener.

Background Information
1) Describe your role in the universal newborn hearing screening program.

2) How long have you been involved in newborn hearing screening?

3) How did you find out about universal newborn hearing screening?

4) What kind of training did you receive to work in a universal newborn hearing screening program?

5) What did you understand about universal newborn hearing screening before your involvement with newborn hearing screening?

Overview of Experiences

Pre-Stage 2

6) Prior to the session with the family, what did you know about the infant's hearing status?

Stage 2

7) Tell me about what you remember about your meeting with the parent.

    b) What was the screen result?

    c) What do you understand about the meaning of the screen result?

    d) What did you tell the parent about the screen result?

    e) When you were talking to the parent about the screen result, what types of things did you want her to know?

    f) What do you remember hearing from the parent after you discussed the screen result with her?
g) How would you describe the parent’s reaction to you as you were telling her about the screen result?

h) What did this screen result mean for you in terms of next steps?

i) How did you feel about being videotaped? How did you feel about my presence during your meeting with the parent(s)? Do you believe the videotaping or my presence had an impact on your meeting?

Videotape Review

Finally, I reviewed the videotape of the disclosure session with the screener. I communicated to each screener that we could pause the tape at any time to discuss any piece of the videotaped interaction that was of interest to them. After reviewing the entire tape, I asked the screener to provide any comments about what she viewed on the videotape.

8) How do you feel after watching this videotape? Are there any other points in the videotape that you would like to talk about?

Following the screener’s discussion of points of interest in the videotape, I returned to segments of the videotape that I identified as points of interest and asked the screener questions about specific points in the meeting.

Examples of questions I asked the screener include:

9) I noticed that you paused here, can you tell me what you might have been thinking here?

10) What were you thinking after you heard this statement?
To: xxx xxxx, Manager, Sensory Services
xxxx Children's Hospital

From: Principal Investigator: David K. Brown, Ph.D.
Auditory Research Program, Department of Surgery
University of Calgary

Co-Investigators: Brenda Poon, Ph.D. Candidate,
Janet Jamieson, Ph.D., Associate Professor,
Department of Educational and Counselling Psychology and
Special Education,
University of British Columbia, Phone: (604) xxx-xxxx

As you know, parents may experience a variety of emotions when receiving the screen results about their infants' hearing, including confusion or anxiety. These emotional reactions may be due, in part, to the ways in which parents have come to understand the screening process and, in particular, the meaning of the screen results.

We are interested in learning about the experiences of screening health care professionals as they share newborn hearing screen results with parents, and, also, the experiences and understandings of parents as they receive these results. We hope that the findings from this study will shed light upon the process of communication of universal newborn hearing screen results and the emotional impact of this process on parents.

We plan to conduct the study over a 5-month time period (June 2003 to October 2003) in four phases: 1) examination of print, internet, and other types of resource materials pertaining to universal newborn hearing screening and the process of sharing screen results; 2) observations and videotaping of meetings between screening health care professionals and parents as they discuss the results of the screen; 3) open-ended, videotaped interviews with parents after their meetings with screening health care professionals; and 4) open-ended, videotaped interviews with screening health care professionals after their meetings with parents. The purpose of these interviews is to discuss with parents and screening health care professionals their accounts of the meaning of the screen results.

We are contacting you now to ask for your assistance in recruiting screening health care professionals, who are responsible for communicating the results of the hearing screens to parents. The screening health care professionals should speak English as a first language and should be responsible for communicating newborn hearing screen results to parents at Stage Two of the screening program (i.e., after in-hospital screening). We would be grateful, if you could distribute informed consent forms to screening health care professionals who fit these criteria.

We would be very thankful if you would also allow the Co-Investigator, Brenda Poon, to be present at the outpatient clinic when families who are involved in the xxxx UNHS Project are
scheduled for their appointments for the second stage of screening (i.e., Stage Two). Parents, by the time of their appointments at the outpatient clinics, would have already received recruitment notices for the study after the first, in-hospital screen (i.e., Stage One) and prior to discharge from the hospital. Parents who are interested in participating in the study may access further information about the study by approaching the Co-Investigator at the outpatient clinic. We would like to ask your permission for a small information table to be set up in the waiting room where parents, if desired, have opportunities to obtain written information and also ask questions about the study.

We also would be very grateful if you would allow us to review any print, internet, audio-visual, or other resource materials that parents and screening health care professionals may use or access to prepare them for their involvement in the universal newborn hearing screening program. For example, resource materials may include pamphlets to parents about universal newborn hearing screening, manuals or guidelines for screening health care professionals, or audio-video materials about newborn hearing screening. These resource materials will be very informative in understanding the types of information that parents and screening health care professionals may access prior to a hearing screen appointment.

If the details of this study meet with your approval, I would be most appreciative if you would send me written confirmation of your willingness to allow us to access resource materials associated with your screening program, and, also, your willingness to assist in the recruitment of participants for this study. I would be very grateful if you would also bring the enclosed Informed Consent Forms to the attention of the screening health care professionals who meet the criteria of participation.

If you have any questions about this project, please feel free to contact the Principal Investigator, Dr. David Brown, by phone at xxx-xxxx, or the Co-Investigator, Brenda Poon, phone at 1-604-xxx-xxxx or by e-mail at btpoon@interchange.ubc.ca. Thank you for your kind consideration of this project, which we are hopeful will provide rich information about how parents in universal newborn hearing screening programs make sense of their infants' newborn hearing screen results.
APPENDIX D: SCREENER CONSENT FORM

Consent to Participate in a Research Study
(Screening Health Care Professionals)

Title: Sharing screen results in a universal newborn hearing screening program: Parents and screening health care professionals' perspectives

Sponsor: Michael Smith Foundation for Health Research

Investigators: Dr. David K. Brown, Dr. Janet Jamieson and Brenda Poon, Ph.D. Candidate

This consent form is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, please ask. Take the time to read this carefully and to understand any accompanying information. You will receive a copy of this form.

BACKGROUND

We want to learn about how to make the screening process as comfortable as possible for parents. The purpose of this study is to learn about how newborn hearing screen results are described to parents and, also, how parents make sense of the hearing screen results that screening health care professionals communicate to them.

Study Procedures: Each participant will be asked to dedicate a total of 1 to 1 and 1/2 hours to the project over a 1 month time period. As a participant in this study, your appointment with the screening health care professional at the outpatient clinic, where your baby's hearing is being screened, will be observed by the researcher and, also, audiotaped and videotaped for later transcription and analysis.

Following the appointment at the outpatient clinic, you will attend one interview session, lasting approximately 45 to 60 minutes. All interviews will take place at the outpatient clinic or at the University of Calgary. In this interview you will be asked about how you communicated screen results to parents, how you understand the screen results, and how you believe parents made sense of the screen results. You will also be asked about your use of any resource materials (e.g., pamphlets, manuals, videos) that may have helped prepare you for the hearing screen appointment. These resource materials will also be reviewed and analyzed.

During the interview, you will also be asked to view a videotape of your appointment at the outpatient clinic with the parent(s). You will be asked specific questions about different points in time during the appointment when you and the parent(s) discussed the infant's hearing screen results. Interviews will be audiotaped and videotaped for later transcription and analysis.
The University of Calgary Conjoint Health Research Ethics Board has approved this research study.

A signed copy of this consent form has been given to you to keep for your records and reference.
APPENDIX E: SCREENER VIDEO CONSENT FORM

AUDIO-VIDEO CONSENT FORM
(SCREENER HEALTH CARE PROFESSIONAL)

Title: Sharing screen results in a universal newborn hearing screening program: Parents and screening health care professionals' perspectives

Sponsor: Michael Smith Foundation for Health Research

Investigators: Dr. David K. Brown, Dr. Janet Jamieson and Brenda Poon, Ph.D. Candidate

This consent form is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, please ask. Take the time to read this carefully and to understand any accompanying information. You will receive a copy of this form.

This audio-video consent form asks for your permission for the investigators to use for educational or scientific purposes the audio- and videotapes in which you appear as a research participant. Your consent will be requested only after you know the content of these audio-video taped materials. No payment or other form of remuneration will be issued to you for such use of these tapes.

Tapes may be edited, exhibited, or reproduced for scientific, educational, or professional purposes. The investigators may use excerpts from these tapes in the future as part of conference presentations or workshops. Tapes will not be sold or distributed. The taped data will be retained for a period of five years after publication of the findings. After this time, the taped data will be destroyed.

Please complete and sign this form and the one attached, and return one copy of the consent form to the Co-Investigator. Please keep the second copy for your own records.

I do / do not (please circle your choice) consent to the use of audio- and videotapes in which I appear as a research participant for scientific, educational, or professional purposes.

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APPENDIX F: PARENT RECRUITMENT NOTICE

Are you interested in talking about your experiences of receiving your baby's hearing screen results?

Principal Investigator:
David K. Brown, Ph.D., Assistant Professor
Auditory Research Program
Department of Surgery
University of Calgary
Phone: xxx-xxxx

Co-Investigators:
Janet Jamieson, Ph.D., Associate Professor,
Brenda Tracy Poon, Ph.D. Candidate,
Department of Educational and Counselling Psychology and Special Education,
University of British Columbia,
Phone: 1-604-xxx-xxxx; x-xxx-xxx-xxxx

We want to learn about how to make the screening process as comfortable as possible for parents. You, as a parent of a newborn child, can help us to work towards this goal when you come in for your baby's hearing screen appointment.

If you
- Are parents of a baby who was in the Well Baby Nursery while in the hospital
- Are parents of a baby whose hearing was screened prior to discharge from the hospital, and who has an appointment for further hearing screening
- Speak English as a first language
- Do not have a hearing loss

Then please consider participating in this research project!

In this research project, we invite you to
- let us observe and videotape your baby's hearing screen appointment at the clinic, and
- give us feedback in a videotaped interview about your baby's hearing screen appointment and your talk with the screening health care professional.

As a small token of appreciation, we will be giving the parents who participate in the study with a children's picture book (retail value of $8) to share and enjoy with their new baby!

You can learn more about this study by
1) Contacting Brenda Poon by:
   phone (xxx-xxx-xxxx; or call collect to xxx-xxx-xxxx) or e-mail
   (xxxx@interchange.ubc.ca).
2) Talking to Brenda Poon in the waiting room before your baby's appointment at the outpatient clinic where your baby's hearing will be screened.

Brenda will be in the waiting room of the clinic on ,
and the clinic on , with more information about the study.
APPENDIX G: PARENT CONSENT FORM

Consent to Participate in a Research Study

(Parents)

Title: Sharing screen results in a universal newborn hearing screening program: Parents
and screening health care professionals’ perspectives

Sponsor: Michael Smith Foundation for Health Research

Investigators: Dr. David K. Brown, Dr. Janet Jamieson and Brenda Poon, Ph.D. Candidate

This consent form is only part of the process of informed consent. It should give you the
basic idea of what the research is about and what you and your child’s participation will
involve. If you would like more detail about something mentioned here, or information not
included here, please ask. Take the time to read this carefully and to understand any
accompanying information. You will receive a copy of this form.

BACKGROUND

We want to learn about how to make the screening process as comfortable as possible for
parents. You, as a parent of a newborn child, can help us to work towards this goal when
you come in for your baby’s hearing screen appointment. The purpose of this study is to
learn about how newborn hearing screen results are described to parents and, also, how
parents make sense of the hearing screen results that screening health care professionals
communicate to them.

Study Procedures: Each participant will be asked to dedicate a total of 1 to 1 and 1/2 hours
to the project over a 1 month time period. As a participant in this study, your appointment
with the screening health care professional at the outpatient clinic, where your baby’s
hearing is being screened, will be observed by the researcher and, also, audiotaped and
videotaped for later transcription and analysis.

Following your appointment at the outpatient clinic, you will attend one interview session,
lasting approximately 45 to 60 minutes. All interviews will take place at the outpatient clinic
or at the University of Calgary. In this interview you will be asked about how your baby’s
screen results were described to you, how you made sense of the screen results, and your
past experiences in universal newborn hearing screening programs. You will also be asked
about your use of any resource materials (e.g., pamphlets, videos) that may have helped
prepare you for your baby’s hearing screening. These resource materials will also be
reviewed and analyzed.

During the interview, you will also be asked to view a videotape of your appointment at the
outpatient clinic with the screening health care professional. You will be asked specific
questions about different points in time during the appointment when you and the screening
health care professional discussed your baby’s hearing screen results. Interviews will be
audiotaped and videotaped for later transcription and analysis.
Individuals who are not directly involved in the screen appointment at the outpatient clinic or the interviews will not be videotaped.

Confidentiality: All information gathered during the study will be kept strictly confidential. All information will be coded and the identity of participants will be known only to the investigators. Participants will not be identified by name in any reports of the completed study. All documents will be identified only by code number and kept in a locked filing cabinet. Any data records kept on computer hard disk will be accessible by a password known only to the researchers. No videotaped material will be viewed by anyone other than the researchers unless specific consent is given to do so.

Potential Risks: There are no known risks associated with your participation in this study. However, in the event of any feelings of discomfort experienced while talking about your experiences during the interviews, a list of counselling or support contacts is available upon request.

Remuneration: As a token of appreciation for your participation in this study, a small picture book (retail value $8) for you and your baby to enjoy together will be given to you after the interview phase of the study.

SIGNATURES

Your signature on this form indicates that you have understood to your satisfaction the information regarding your participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the investigators, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time without jeopardizing your health care. If you have further questions concerning matters related to this research, please contact:

Dr. David K. Brown (xxx) xxx-xxxx

Or

Brenda Poon, Ph.D. Candidate (xxx) xxx-xxxx or call collect to (xxx) xxx-xxxx

If you have any questions concerning your rights as a possible participant in this research, please contact Pat Evans, Associate Director, Internal Awards, Research Services, University of xxxx, at xxx-xxxx.
The University of Calgary Conjoint Health Research Ethics Board has approved this research study.

A signed copy of this consent form has been given to you to keep for your records and reference.
APPENDIX H: PARENT VIDEO CONSENT FORM

AUDIO-VIDEO CONSENT FORM (PARENTS)

Title: Sharing screen results in a universal newborn hearing screening program: Parents and screening health care professionals' perspectives

Sponsor: Michael Smith Foundation for Health Research

Investigators: Dr. David K. Brown, Dr. Janet Jamieson and Brenda Poon, Ph.D. Candidate

This consent form is only part of the process of informed consent. It should give you the basic idea of what the research is about and what you and your child's participation will involve. If you would like more detail about something mentioned here, or information not included here, please ask. Take the time to read this carefully and to understand any accompanying information. You will receive a copy of this form.

This audio-video consent form asks for your permission for the investigators to use for educational or scientific purposes the audio- and videotapes in which you appear as a research participant. Your consent will be requested only after you know the content of these audio-video taped materials. No payment or other form of remuneration will be issued to you for such use of these tapes.

Tapes may be edited, exhibited, or reproduced for scientific, educational, or professional purposes. The investigators may use excerpts from these tapes in the future as part of conference presentations or workshops. Tapes will not be sold or distributed. The taped data will be retained for a period of five years after publication of the findings. After this time, the taped data will be destroyed.

Please complete and sign this form and the one attached, and return one copy of the consent form to the Co-Investigator. Please keep the second copy for your own records.

I do / do not (please circle your choice) consent to the use of audio- and videotapes in which I appear as a research participant for scientific, educational, or professional purposes.

I do / do not (please circle your choice) consent to the use of audio- and videotapes, in which my infant appears, for scientific, educational, or professional purposes.

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APPENDIX I: TRANSCRIPTION KEY OF TALK DURING DISCLOSURE MEETINGS AND FOLLOW-UP INTERVIEWS

Transcription Symbols (from Jefferson, 1984, 1985)

Gaps and Overlaps in Talk

- Brackets indicate the start and end points of overlapping speech [text]
- A break and subsequent continuation of a single interrupted utterance is indicated with an equal sign (=)
- Pauses/Silences: timed in tenths of a second and indicated in parentheses within and between turns (# of seconds)
- Micropause: A brief pause is indicated with a period in parentheses (.)

Characteristics of Speech Delivery

- Sustained sounds either vowel or consonant, or whole syllable is indicated with a colon (:), where more colons indicate a longer stretch (:::)
- Falling intonation – period (.) or down arrow (↓)
- Continuing intonation with a comma (,)
- Rising intonation on word or utterance with a question mark (?) or up arrow (↑)
- Emphatic and animated tone with an exclamation mark (!)
- Emphasis on speech with underlined text
- Loudness or increased volume speech indicated by sections of utterances in CAPITAL letters
- Softness – markedly quieter than surrounding talk with a degree sign at each end of utterance or passage (°)
- An abrupt “cut-off” with a single dash (–)
• Greater than and less than symbols are used to enclose speech that was delivered more rapidly than usual for speaker (>text<)

• Less than and greater than symbols are used to enclose speech that was delivered more slowly than usual for the speaker (<text>)

• Laughter and other audible breathy sounds like inhalations (.hhh) or audible exhalations (hhh)

Transcriber's Notations and Presentation Devices

• Transcription doubts and difficulties – within parenthesis (text) or parentheses enclosing blank space ( )

• Transcriber's descriptive comments in double parentheses that include activity description or aspects of the interactional setting ((italic text))
## APPENDIX J: TRANSCRIPTION KEY OF PHYSICAL BEHAVIOURS DURING STAGE-TWO WAIT PERIOD

<table>
<thead>
<tr>
<th>Counter (00:00 in minutes)</th>
<th>POSITION (e.g., P-S: side-by-side; P-S: face-to-face)</th>
<th>DISTANCE APART (in feet)</th>
<th>SCREENER'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>SCREENER'S FACIAL EXPRESSION</th>
<th>SCREENER'S EYE GAZE</th>
<th>PARENT'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>PARENT'S FACIAL EXPRESSION</th>
<th>PARENT'S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

### Legend

- **P**: parent
- **P_b**: parent holding baby
- **S**: screener (Lori)
- **B**: baby
- **SD**: screen device
- **RH**: right hand
- **LH**: left hand
APPENDIX K: TRANSCRIPTION OF PHYSICAL BEHAVIOURS IN CASE 1 - JANICE AND JENNY (LEFT EAR)

<table>
<thead>
<tr>
<th>Counter 00:00 (in minutes)</th>
<th>POSITION (e.g., P-S: side-by-side; P-S: face-to-face)</th>
<th>DISTANCE APART (in feet)</th>
<th>SCREENER'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>SCREENER'S FACIAL EXPRESSION</th>
<th>SCREENER'S EYE GAZE</th>
<th>PARENT'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>PARENT'S FACIAL EXPRESSION</th>
<th>PARENT'S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:45</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (0.5)</td>
<td>- leaning far forward towards P_B</td>
<td>not in view</td>
<td>Jenny</td>
<td>- sitting with head downward</td>
<td>neutral focused attention</td>
<td>Jenny</td>
<td>insert probe tip (L)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- hands close to B's ear</td>
<td></td>
<td></td>
<td>- RH holding blanket on B's chest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:52</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (0.75)</td>
<td>- leaning forward (more upright)</td>
<td>neutral focused attention</td>
<td>Jenny</td>
<td>- no change</td>
<td>neutral focused attention</td>
<td>Jenny</td>
<td>hold probe tip (L)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- LH on cable near B's ear</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- RH touches SD on table</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:53</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (1.5)</td>
<td>- becomes more upright</td>
<td>neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>neutral focused attention</td>
<td>Jenny</td>
<td>prepare screen device (L)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- leaning forward</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- RH picks up SD off table to position closer to body</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- thumb on top of SD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:56</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (1.5)</td>
<td>- no change</td>
<td>neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>neutral focused attention</td>
<td>SD</td>
<td>wait for result (L,J)</td>
</tr>
<tr>
<td>4:57</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (1.5)</td>
<td>- no change</td>
<td>neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>neutral focused attention</td>
<td>Jenny</td>
<td>wait for result (L,J)</td>
</tr>
</tbody>
</table>

Legend
P: parent (Janice)
P_B: parent holding baby (Janice holding Jenny)
S: screener (Lori)
B: baby (Jenny)
SD: screen device
RH: right hand
LH: left hand
<table>
<thead>
<tr>
<th>Counter (in minutes)</th>
<th>POSITION (e.g., P-S: side-by-side; P-S: face-to-face)</th>
<th>DISTANCE APART (in feet)</th>
<th>SCREENER'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>SCREENER'S FACIAL EXPRESSION</th>
<th>SCREENER'S EYE GAZE</th>
<th>PARENT'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>PARENT'S FACIAL EXPRESSION</th>
<th>PARENT'S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:58</td>
<td>S-Pₜ (face to face)</td>
<td>S-Pₜ (1.5)</td>
<td>- no change</td>
<td>neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- nervous</td>
<td>SD</td>
<td>wait for result (L,J)</td>
</tr>
<tr>
<td>5:00</td>
<td>S-Pₜ (face to face)</td>
<td>S-Pₜ (1.5)</td>
<td>- no change</td>
<td>slight curve upwards of closed mouth</td>
<td>Jenny</td>
<td>- no change</td>
<td>- nervous</td>
<td>Jenny</td>
<td>wait for result (L,J)</td>
</tr>
<tr>
<td>5:01</td>
<td>S-Pₜ (face to face)</td>
<td>S-Pₜ (1.5)</td>
<td>- no change</td>
<td>neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- nervous</td>
<td>Jenny</td>
<td>wait for result (L,J)</td>
</tr>
<tr>
<td>5:05</td>
<td>S-Pₜ (face to face)</td>
<td>S-Pₜ (1.5)</td>
<td>- no change</td>
<td>neutral focused attention</td>
<td>SD</td>
<td>- head moves upward slightly but still tilted downward</td>
<td>wide eyed</td>
<td>Lori</td>
<td>wait for result (L,J)</td>
</tr>
<tr>
<td>5:07</td>
<td>S-Pₜ (face to face)</td>
<td>S-Pₜ (1.5)</td>
<td>- no change</td>
<td>neutral focused attention</td>
<td>SD</td>
<td>- head up and tilted</td>
<td>puzzled look</td>
<td>SD</td>
<td>wait for result (L,J)</td>
</tr>
<tr>
<td>5:14</td>
<td>S-Pₜ (face to face)</td>
<td>S-Pₜ (1.5)</td>
<td>- head shifts upward - begins talking</td>
<td>neutral focused attention</td>
<td>Jenny</td>
<td>- no change</td>
<td>- puzzled look</td>
<td>Jenny</td>
<td>result obtained (L)</td>
</tr>
</tbody>
</table>

Legend
P: parent (Janice)
Pₜ: parent holding baby (Janice holding Jenny)
S: screener (Lori)
B: baby (Jenny)
SD: screen device
RH: right hand
LH: left hand
<table>
<thead>
<tr>
<th>Counter (00:00 (in minutes))</th>
<th>POSITION (e.g., P-S: side-by-side; P-S: face-to-face)</th>
<th>DISTANCE APART (in feet)</th>
<th>SCREENER'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>SCREENER'S FACIAL EXPRESSION</th>
<th>SCREENER'S EYE GAZE</th>
<th>PARENT'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>PARENT'S FACIAL EXPRESSION</th>
<th>PARENT'S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S-Pₐ (face to face)</td>
<td>S-Pₐ (1.5)</td>
<td>- head shifts left</td>
<td>- neutral focused attention</td>
<td>Jenny</td>
<td>- no change</td>
<td>- puzzled look</td>
<td>Jenny</td>
<td>commun</td>
</tr>
</tbody>
</table>

**Legend**

P: parent (Janice)
Pₐ: parent holding baby (Janice holding Jenny)
S: screener (Lori)
B: baby (Jenny)
SD: screen device
RH: right hand
LH: left hand
## APPENDIX L: TRANSCRIPTION OF PHYSICAL BEHAVIOURS IN CASE 1 - JANICE AND JENNY (RIGHT EAR)

<table>
<thead>
<tr>
<th>Counter</th>
<th>POSITION (e.g., P-S: side-by-side; P-B: face-to-face)</th>
<th>DISTANCE APART (in feet)</th>
<th>SCREENER'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>SCREENER'S FACIAL EXPRESSION</th>
<th>SCREENER'S EYE GAZE</th>
<th>PARENT'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>PARENT'S FACIAL EXPRESSION</th>
<th>PARENT'S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:02</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (0.5)</td>
<td>- leans forward towards B</td>
<td>- not in view</td>
<td>Jenny</td>
<td>- LH moves to touch B's face</td>
<td>- not visible</td>
<td>Jenny</td>
<td>insert probe tip (L)</td>
</tr>
<tr>
<td>6:06</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (1.5)</td>
<td>- RH picks up SD off table</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- not visible</td>
<td>Jenny</td>
<td>prepare screen device (L)</td>
</tr>
<tr>
<td>6:08</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (1.5)</td>
<td>- RH moves SD towards her mid-body</td>
<td>- mouth curved upwards</td>
<td>Jenny</td>
<td>- no change</td>
<td>- not visible</td>
<td>Jenny</td>
<td>wait for result (L,J)</td>
</tr>
<tr>
<td>6:09</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (1.5)</td>
<td>- no change</td>
<td>- neutral</td>
<td>SD</td>
<td>- no change</td>
<td>- not visible</td>
<td>Jenny</td>
<td>wait for result (L,J)</td>
</tr>
<tr>
<td>6:11</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (1.5)</td>
<td>- no change</td>
<td>- neutral</td>
<td>Jenny</td>
<td>- no change</td>
<td>- not visible</td>
<td>Jenny</td>
<td>wait for result (L,J)</td>
</tr>
<tr>
<td>6:12</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (1.5)</td>
<td>- no change</td>
<td>- neutral</td>
<td>SD</td>
<td>- no change</td>
<td>- not visible</td>
<td>Jenny</td>
<td>wait for result (L,J)</td>
</tr>
</tbody>
</table>

**Legend**

- P: parent (Janice)
- P_B: parent holding baby (Janice holding Jenny)
- S: screener (Lori)
- B: baby (Jenny)
- SD: screen device
- RH: right hand
- LH: left hand
<table>
<thead>
<tr>
<th>Counter 00:00 (in minutes)</th>
<th>POSITION (e.g., P-S: side-by-side; P-S: face-to-face)</th>
<th>DISTANCE APART (in feet)</th>
<th>SCREENER'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>SCREENER'S FACIAL EXPRESSION</th>
<th>SCREENER'S EYE GAZE</th>
<th>PARENT'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>PARENT'S FACIAL EXPRESSION</th>
<th>PARENT'S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:22</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (1.5)</td>
<td>- no change</td>
<td>- neutral</td>
<td>SD</td>
<td>- vocalizes comment &quot;opened eyes&quot;</td>
<td>- not visible</td>
<td>(Jenny)</td>
<td>wait for result (L,J)</td>
</tr>
<tr>
<td>6:23</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (1.5)</td>
<td>- no change</td>
<td>- smiles</td>
<td>Jenny</td>
<td>- no change</td>
<td>- not visible</td>
<td>(Jenny)</td>
<td>wait for result (L,J)</td>
</tr>
<tr>
<td>6:24</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (1.5)</td>
<td>- leans forward slightly</td>
<td>- neutral</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>(Jenny)</td>
<td>wait for result (L,J)</td>
</tr>
<tr>
<td>6:25</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (1.5)</td>
<td>- moves LH to probe tip in B's ear</td>
<td>- neutral</td>
<td>Jenny</td>
<td>- no change</td>
<td>- not visible</td>
<td>(Jenny)</td>
<td>wait for result obtained (L)</td>
</tr>
<tr>
<td>6:27</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (1.0)</td>
<td>- leans forward slightly - removes probe tip from B's ear</td>
<td>- neutral</td>
<td>Jenny</td>
<td>- nods head</td>
<td>- not visible</td>
<td>(Jenny)</td>
<td>communication of result (L)</td>
</tr>
</tbody>
</table>

**Legend**

P: parent (Janice)
P_B: parent holding baby (Janice holding Jenny)
S: screener (Lori)
B: baby (Jenny)
SD: screen device
RH: right hand
LH: left hand
APPENDIX M: TRANSCRIPTION OF PHYSICAL BEHAVIOURS IN CASE 4 - MARIE AND SCOTT (LEFT EAR)

<table>
<thead>
<tr>
<th>Counter</th>
<th>POSITION (e.g., P-S: side-by-side; P-S: face-to-face)</th>
<th>DISTANCE APART (in feet)</th>
<th>SCREENER'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>SCREENER'S FACIAL EXPRESSION</th>
<th>SCREENER'S EYE GAZE</th>
<th>PARENT'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>PARENT'S FACIAL EXPRESSION</th>
<th>PARENT'S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:07</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (0.5)</td>
<td>standing, bent over at hip</td>
<td>not in view</td>
<td>Scott</td>
<td>sitting (breastfeeding)</td>
<td>neutral</td>
<td>Scott</td>
<td>insert probe tip (L)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>both hands near B's left ear</td>
<td></td>
<td></td>
<td>holds B in left arm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>head bent over towards B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:10</td>
<td>S-P_B (angled toward each other)</td>
<td>S-P_B (1.0)</td>
<td>LH on cable near B's ear</td>
<td>neutral focused attention</td>
<td>Scott</td>
<td>no change</td>
<td>neutral</td>
<td>Scott</td>
<td>get screen device (L)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- RH touches SD on table</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:12</td>
<td>S-P_B (angled toward each other)</td>
<td>S-P_B (1.5)</td>
<td>LH moves cable slightly away from B's ear</td>
<td>neutral focused attention</td>
<td>SD</td>
<td>no change</td>
<td>neutral</td>
<td>Scott</td>
<td>prepare screen device (L)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- RH holding SD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:16</td>
<td>S-P_B (angled toward each other)</td>
<td>S-P_B (1.5)</td>
<td>no change</td>
<td>neutral focused attention</td>
<td>SD</td>
<td>no change</td>
<td>neutral</td>
<td>Scott</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>5:18</td>
<td>S-P_B (angled toward each other)</td>
<td>S-P_B (2.0)</td>
<td>stands more upright</td>
<td>neutral focused attention</td>
<td>Scott</td>
<td>no change</td>
<td>neutral</td>
<td>Scott</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>5:19</td>
<td>S-P_B (angled toward each other)</td>
<td>S-P_B (2.0)</td>
<td>no change</td>
<td>neutral focused attention</td>
<td>SD</td>
<td>no change</td>
<td>neutral</td>
<td>Scott</td>
<td>wait for result (L,M)</td>
</tr>
</tbody>
</table>

Legend

P: parent (Marie)
P_B: parent holding baby (Marie holding Scott)
S: screener (Lori)
B: baby (Scott)
SD: screen device
RH: right hand
LH: left hand
<table>
<thead>
<tr>
<th>Counter (in minutes)</th>
<th>POSITION (e.g., P-S: side-by-side; P-S: face-to-face)</th>
<th>DISTANCE APART (in feet)</th>
<th>SCREENER'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>SCREENER'S FACIAL EXPRESSION</th>
<th>SCREENER'S EYE GAZE</th>
<th>PARENT'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>PARENT'S FACIAL EXPRESSION</th>
<th>PARENT'S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:30</td>
<td>S-P_B (angled toward each other)</td>
<td>S-P_B (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- turns head slightly to the right</td>
<td>- neutral</td>
<td>Scott</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>5:31</td>
<td>S-P_B (angled toward each other)</td>
<td>S-P_B (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- moves head to upright position</td>
<td>- neutral</td>
<td>Front space</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>5:32</td>
<td>S-P_B (angled toward each other)</td>
<td>S-P_B (2.0)</td>
<td>- turns head slightly to left</td>
<td>- smile</td>
<td>Marie</td>
<td>- no change</td>
<td>- smiles (still talking)</td>
<td>Lori</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>5:34</td>
<td>S-P_B (angled toward each other)</td>
<td>S-P_B (2.0)</td>
<td>- turns head back to ventral position - looking downward</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>- no change</td>
<td>- neutral</td>
<td>Front space</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>5:35</td>
<td>S-P_B (angled toward each other)</td>
<td>S-P_B (2.0)</td>
<td>- vocalizes briefly</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- moves head to the left - lowers head</td>
<td>- neutral</td>
<td>Scott</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>5:38</td>
<td>S-P_B (angled toward each other)</td>
<td>S-P_B (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>- no change</td>
<td>- slight smile</td>
<td>Scott</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>5:39</td>
<td>S-P_B (angled toward each other)</td>
<td>S-P_B (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Scott</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>5:47</td>
<td>S-P_B (angled toward each other)</td>
<td>S-P_B (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>- no change</td>
<td>- neutral</td>
<td>Scott</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>5:48</td>
<td>S-P_B (angled toward each other)</td>
<td>S-P_B (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Scott</td>
<td>wait for result (L,M)</td>
</tr>
</tbody>
</table>

**Legend**

P: parent (Marie)
P_B: parent holding baby (Marie holding Scott)
S: screener (Lori)
B: baby (Scott)
SD: screen device
RH: right hand
LH: left hand
<table>
<thead>
<tr>
<th>Counter 00:00 (in minutes)</th>
<th>POSITION (e.g., P-S: side-by-side; P-S: face-to-face)</th>
<th>DISTANCE APART (in feet)</th>
<th>SCREENER'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>SCREENER'S FACIAL EXPRESSION</th>
<th>SCREENER'S EYE GAZE</th>
<th>PARENT'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>PARENT'S FACIAL EXPRESSION</th>
<th>PARENT'S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:50</td>
<td>S- P_B (angled toward each other)</td>
<td>S-P_B (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>- no change</td>
<td>- neutral</td>
<td>Scott</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>5:51</td>
<td>S- P_B (angled toward each other)</td>
<td>S-P_B (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Scott</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>5:54</td>
<td>S- P_B (angled toward each other)</td>
<td>S-P_B (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>- no change</td>
<td>- neutral</td>
<td>Scott</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>5:55</td>
<td>S- P_B (angled toward each other)</td>
<td>S-P_B (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Scott</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>5:58</td>
<td>S- P_B (angled toward each other)</td>
<td>S-P_B (2.0)</td>
<td>- leans forward - LH on probe tip</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>- no change</td>
<td>- neutral</td>
<td>Scott</td>
<td>result obtained (L)</td>
</tr>
<tr>
<td>6:01</td>
<td>S- P_B (right angle to one another)</td>
<td>S-P_B (2.5)</td>
<td>- steps back (upright) - pulls SD &amp; cords away from B</td>
<td>- neutral focused attention</td>
<td>Marie</td>
<td>- head upright looking slightly upward</td>
<td>- neutral</td>
<td>Lori</td>
<td>commun ication of result (L)</td>
</tr>
</tbody>
</table>

Legend
P: parent (Marie)
P_B: parent holding baby (Marie holding Scott)
S: screener (Lori)
B: baby (Scott)
SD: screen device
RH: right hand
LH: left hand
**APPENDIX N: TRANSCRIPTION OF PHYSICAL BEHAVIOURS IN CASE 4 - MARIE AND SCOTT (RIGHT EAR)**

<table>
<thead>
<tr>
<th>Counter</th>
<th>POSITION</th>
<th>DISTANCE APART</th>
<th>SCREENER'S MOVEMENT</th>
<th>SCREENER'S FACIAL EXPRESSION</th>
<th>SCREENER'S EYE GAZE</th>
<th>PARENT'S MOVEMENT</th>
<th>PARENT'S FACIAL EXPRESSION</th>
<th>PARENT'S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>00/00 (in minutes)</td>
<td>(e.g., P-S: side-by-side; P-S: face-to-face)</td>
<td>(in feet)</td>
<td>(e.g., leaning forward, standing, sitting)</td>
<td></td>
<td></td>
<td>(e.g., leaning forward, standing, sitting)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:35</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (0.5)</td>
<td>- standing, leaning forward - both hands near B’s ear</td>
<td>- not in view</td>
<td>Scott</td>
<td>- sitting holding B in right arm - head tilted downward</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>insert probe tip (L)</td>
</tr>
<tr>
<td>7:42</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (1.0)</td>
<td>- LH holds probe tip near B’s ear - RH touches SD on table</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>get screen device (L)</td>
</tr>
<tr>
<td>7:43</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (1.0)</td>
<td>- RH picks up SD off table</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>get screen device (L)</td>
</tr>
<tr>
<td>7:44</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (1.0)</td>
<td>- LH on cable - RH holds SD</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>prepare screen device (L)</td>
</tr>
<tr>
<td>7:46</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (1.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>8:03</td>
<td>S-P_B (face to face)</td>
<td>S-P_B (2.0)</td>
<td>- stands upright</td>
<td>- slight smile</td>
<td>Scott</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>wait for result</td>
</tr>
</tbody>
</table>

**Legend**

P: parent (Marie)
P_B: parent holding baby (Marie holding Scott)
S: screener (Lori)
B: baby (Scott)
SD: screen device
RH: right hand
LH: left hand
<table>
<thead>
<tr>
<th>Counter 00:00 (in minutes)</th>
<th>POSITION (e.g., P-S: side-by-side; P-B: face-to-face)</th>
<th>DISTANCE APART (in feet)</th>
<th>SCREENER'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>SCREENER'S FACIAL EXPRESSION</th>
<th>SCREENER'S EYE GAZE</th>
<th>PARENT'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>PARENT'S FACIAL EXPRESSION</th>
<th>PARENT'S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:05</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (face to face)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>8:06</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (face to face)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>8:07</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (face to face)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>8:09</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (face to face)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- slight head turn to left</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>8:10</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (face to face)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- standing upright</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>wait for result (L,M)</td>
</tr>
<tr>
<td>8:15</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (face to face)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (1.5)</td>
<td>- leans forward slightly LH to probe tip in B's ear</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>result obtained (L)</td>
</tr>
<tr>
<td>8:16</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (face to face)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (1.5)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Scott</td>
<td>commun ication of result (L)</td>
</tr>
</tbody>
</table>

Legend
P: parent (Marie)
P<sub>B</sub>: parent holding baby (Marie holding Scott)
S: screener (Lori)
B: baby (Scott)
SD: screen device
RH: right hand
LH: left hand
**APPENDIX O: TRANSCRIPTION OF PHYSICAL BEHAVIOURS IN CASE 2 - KATE AND ROBERT (LEFT EAR)**

<table>
<thead>
<tr>
<th>Counter 00:00 (in minutes)</th>
<th>POSITION (e.g., P-S: side-by-side; P-S, face-to-face)</th>
<th>DISTANCE APART (in feet)</th>
<th>SCREENER’S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>SCREENER’S FACIAL EXPRESSION</th>
<th>SCREENER’S EYE GAZE</th>
<th>PARENT’S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>PARENT’S FACIAL EXPRESSION</th>
<th>PARENT’S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:43</td>
<td>S-P₀ (face to face)</td>
<td>S-P₀ (1.0)</td>
<td>- sitting hunched over - leaning forward</td>
<td>- neutral focused attention</td>
<td>Robert</td>
<td>- sitting upright - turned toward S - holding bottle in B’s mouth</td>
<td>- smiling</td>
<td>Robert</td>
<td>insert probe tip (L)</td>
</tr>
<tr>
<td>9:48</td>
<td>S-P₀ (face to face)</td>
<td>S-P₀ (1.75)</td>
<td>- upright - head tilted forward - holding cord in RH</td>
<td>- smiling</td>
<td>Robert</td>
<td>- no change</td>
<td>- slight smile</td>
<td>Robert</td>
<td>adjust SD cord (L)</td>
</tr>
<tr>
<td>9:50</td>
<td>S-P₀ (face to face)</td>
<td>S-P₀ (2.0)</td>
<td>- holding cord in LH - holding SD in RH</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- slight smile</td>
<td>talking to B</td>
<td>Robert prepare screen device (L)</td>
</tr>
<tr>
<td>9:52</td>
<td>S-P₀ (face to face)</td>
<td>S-P₀ (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Robert</td>
<td>- no change</td>
<td>- neutral</td>
<td>Robert</td>
<td>wait for result (L,K)</td>
</tr>
<tr>
<td>9:53</td>
<td>S-P₀ (face to face)</td>
<td>S-P₀ (2.0)</td>
<td>- stands more upright</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Robert</td>
<td>wait for result (L,K)</td>
</tr>
<tr>
<td>9:56</td>
<td>S-P₀ (face to face)</td>
<td>S-P₀ (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Robert</td>
<td>- no change</td>
<td>- neutral</td>
<td>Robert</td>
<td>wait for result (L,K)</td>
</tr>
<tr>
<td>9:57</td>
<td>S-P₀ (face to face)</td>
<td>S-P₀ (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Robert</td>
<td>wait for result (L,K)</td>
</tr>
</tbody>
</table>

**Legend**

P: parent (Kate)
P₀: parent holding baby (Kate holding Robert)
S: screener (Lori)
B: baby (Robert)
SD: screen device
RH: right hand
LH: left hand
<table>
<thead>
<tr>
<th>Counter</th>
<th>POSITION (e.g., P-S: side-by-side; P-F: face-to-face)</th>
<th>DISTANCE APART (in feet)</th>
<th>SCREENER’S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>SCREENER’S FACIAL EXPRESSION</th>
<th>SCREENER’S EYE GAZE</th>
<th>PARENT’S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>PARENT’S FACIAL EXPRESSION</th>
<th>PARENT’S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:00 (in minutes)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 10:05 | S-P_{B} (face to face) | S-P_{B} (2.0) | - places SD on table  
- LH still holds cord | - neutral focused attention | Robert | - no change | - neutral | Robert | result obtained (L) |
| 10:07 | S-P_{B} (face to face) | S-P_{B} (1.75) | - leaning forward slightly  
- LH on probe tip near B’s ear  
- RH holding cord | - neutral focused attention | Robert | - no change | - neutral | Robert | communication of result (L) |

**Legend**
P: parent (Kate)  
P_{B}: parent holding baby (Kate holding Robert)  
S: screener (Lori)  
B: baby (Robert)  
SD: screen device  
RH: right hand  
LH: left hand
# APPENDIX P: TRANSCRIPTION OF PHYSICAL BEHAVIOURS IN CASE 2 - KATE AND ROBERT (RIGHT EAR)

<table>
<thead>
<tr>
<th>Counter 00:00 (in minutes)</th>
<th>POSITION (e.g., P-S: side-by-side; P-S: face-to-face)</th>
<th>DISTANCE APART (in feet)</th>
<th>SCREENER’S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>SCREENER’S FACIAL EXPRESSION</th>
<th>SCREENER’S EYE GAZE</th>
<th>PARENT’S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>PARENT’S FACIAL EXPRESSION</th>
<th>PARENT’S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:51</td>
<td>S-P₆ (face to face)</td>
<td>S-P₆ (0.5)</td>
<td>- hunched over</td>
<td>- not in view</td>
<td>Robert</td>
<td>- sitting holding baby</td>
<td>- neutral</td>
<td>Robert</td>
<td>insert probe tip (L)</td>
</tr>
<tr>
<td>8:54</td>
<td>S-P₆ (side by side, angled toward ea. other)</td>
<td>S-P₆ (1.0)</td>
<td>- slightly forward</td>
<td>- not in view</td>
<td>Robert</td>
<td>- no change</td>
<td>- smile</td>
<td>Robert</td>
<td>position probe tip (L)</td>
</tr>
<tr>
<td>8:57</td>
<td>S-P₆ (side by side, angled toward ea. other)</td>
<td>S-P₆ (1.5)</td>
<td>- more upright (slight lean forward)</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Robert</td>
<td>prepare screen device (L)</td>
</tr>
<tr>
<td>8:59</td>
<td>S-P₆ (side by side, angled toward ea. other)</td>
<td>S-P₆ (1.75)</td>
<td>- head slightly forward</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Robert</td>
<td>wait for result (L,K)</td>
</tr>
<tr>
<td>9:02</td>
<td>S-P₆ (side by side, angled toward ea. other)</td>
<td>S-P₆ (1.75)</td>
<td>- lifts SD slightly with RH</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Robert</td>
<td>adjust cord (L)</td>
</tr>
<tr>
<td>9:03</td>
<td>S-P₆ (side by side, angled)</td>
<td>S-P₆ (2.0)</td>
<td>- upright</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Robert</td>
<td>wait for result</td>
</tr>
</tbody>
</table>

**Legend**

P: parent (Kate)
P₆: parent holding baby (Kate holding Robert)
S: screener (Lori)
B: baby (Robert)
SD: screen device
RH: right hand
LH: left hand
<table>
<thead>
<tr>
<th>Counter</th>
<th>POSITION</th>
<th>DISTANCE APART</th>
<th>SCREENER'S MOVEMENT</th>
<th>SCREENER'S FACIAL EXPRESSION</th>
<th>SCREENER'S EYE GAZE</th>
<th>PARENT'S MOVEMENT</th>
<th>PARENT'S FACIAL EXPRESSION</th>
<th>PARENT'S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:00 (in minutes)</td>
<td>(e.g., P-S, side-by-side; P-S, face-to-face)</td>
<td>(in feet)</td>
<td>(e.g., leaning forward, standing, sitting)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:06 S-P_Β (side by side, angled toward ea. other)</td>
<td>S-P_Β (2.0)</td>
<td>- no change</td>
<td>- slight smile</td>
<td>Robert</td>
<td>- no change</td>
<td>- neutral</td>
<td>Robert</td>
<td>wait for result (L,K)</td>
<td></td>
</tr>
<tr>
<td>9:07 S-P_Β (side by side, angled toward ea. other)</td>
<td>S-P_Β (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Robert</td>
<td>wait for result (L,K)</td>
<td></td>
</tr>
<tr>
<td>9:12 S-P_Β (side by side, angled toward ea. other)</td>
<td>S-P_Β (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>SD</td>
<td>wait for result (L,K)</td>
<td></td>
</tr>
<tr>
<td>9:14 S-P_Β (side by side, angled toward ea. other)</td>
<td>S-P_Β (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>SD</td>
<td>wait for result (L,K)</td>
<td></td>
</tr>
<tr>
<td>9:16 S-P_Β (side by side, angled toward ea. other)</td>
<td>S-P_Β (2.0)</td>
<td>- puts RH down on table - puts SD down on table</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>SD</td>
<td>result obtained (L)</td>
<td></td>
</tr>
<tr>
<td>9:18 S-P_Β (face to face)</td>
<td>S-P_Β (1.5)</td>
<td>- leans over - moves both hands towards B's ear</td>
<td>- neutral focused attention</td>
<td>Robert</td>
<td>- no change</td>
<td>- neutral</td>
<td>Robert's ear</td>
<td>communication of result (L)</td>
<td></td>
</tr>
</tbody>
</table>

Legend

P: parent (Kate)
P_Β: parent holding baby (Kate holding Robert)
S: screener (Lori)
B: baby (Robert)
SD: screen device
RH: right hand
LH: left hand
### APPENDIX Q: TRANSCRIPTION OF PHYSICAL BEHAVIOURS IN CASE 3 - CAROL AND THOMAS (LEFT EAR)

<table>
<thead>
<tr>
<th>Counter</th>
<th>POSITION (e.g., P-S: side-by-side; P-S: face-to-face)</th>
<th>DISTANCE APART (in feet)</th>
<th>SCREENER'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>SCREENER'S FACIAL EXPRESSION</th>
<th>SCREENER'S EYE GAZE</th>
<th>PARENT'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>PARENT'S FACIAL EXPRESSION</th>
<th>PARENT'S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:55</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (face to face)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (1.0)</td>
<td>- moves head towards B</td>
<td>- not in view (Thomas)</td>
<td>- sitting holding baby - feeding B</td>
<td>- neutral</td>
<td>Thomas</td>
<td>insert probe tip (L)</td>
<td></td>
</tr>
<tr>
<td>2:59</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (face to face)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (1.0)</td>
<td>- moves head upward slightly away from B - hands spread out &amp; open near B's ear</td>
<td>- not in view (Thomas)</td>
<td>- no change</td>
<td>- neutral</td>
<td>Thomas</td>
<td>adjust probe tip (L)</td>
<td></td>
</tr>
<tr>
<td>3:02</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (face to face)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (1.5)</td>
<td>- moves slightly upward - RH picks up SD - LH holds probe tip near B's ear</td>
<td>- not in view SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Thomas</td>
<td>get screen device (L)</td>
<td></td>
</tr>
<tr>
<td>3:05</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (face to face)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (1.5)</td>
<td>- RH pulls SD in towards front of her mid-body</td>
<td>- not in view SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Thomas</td>
<td>prepare screen device (L)</td>
<td></td>
</tr>
<tr>
<td>3:11</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (face to face)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (1.5)</td>
<td>- head turns slightly left</td>
<td>- not in view Thomas</td>
<td>- no change</td>
<td>- neutral</td>
<td>Thomas</td>
<td>wait for result (L,C)</td>
<td></td>
</tr>
<tr>
<td>3:12</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (face to face)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (1.5)</td>
<td>- turns head slightly right</td>
<td>- not in view SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Thomas</td>
<td>wait for result (L,C)</td>
<td></td>
</tr>
</tbody>
</table>

**Legend**
- P: parent (Carol)
- P<sub>B</sub>: parent holding baby (Carol holding Thomas)
- S: screener (Lori)
- B: baby (Thomas)
- SD: screen device
- RH: right hand
- LH: left hand
| Counter | POSITION
| (e.g., P-S: side-by-side; P-F: face-to-face) | DISTANCE APART
| (in feet) | SCREENER'S MOVEMENT
| (e.g., leaning forward, standing, sitting) | SCREENER'S FACIAL EXPRESSION | SCREENER'S EYE GAZE | PARENT'S MOVEMENT
| (e.g., leaning forward, standing, sitting) | PARENT'S FACIAL EXPRESSION | PARENT'S EYE GAZE | ACTION |
|---------|----------------------------------|----------------|-----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 3:16    | S-P<sub>B</sub> (face to face)  | S-P<sub>B</sub> (1.5) | feet shift slightly then left towards B | not in view | Thomas | B's left arm moves around | neutral | Thomas | wait for result (L,C) |
| 3:21    | S-P<sub>B</sub> (face to face)  | S-P<sub>B</sub> (1.5) | head turns right then left towards B | not in view | (Thomas) | B's left arm moves around | neutral | Thomas | wait for result (L,C) |
| 3:22    | S-P<sub>B</sub> (face to face)  | S-P<sub>B</sub> (1.5) | no change | not in view | (SD) | B's left arm moves around | neutral | Thomas | wait for result (L,C) |
| 3:29    | S-P<sub>B</sub> (face to face)  | S-P<sub>B</sub> (1.5) | closes LH closer around probe tip near B's ear | not in view | Thomas | hands move to touch B's face while holding bottle | neutral | Thomas | result obtained (L) |
| 3:30    | S-P<sub>B</sub> (face to face)  | S-P<sub>B</sub> (1.5) | LH moves probe tip away from B's ear | not in view | Thomas | no change | neutral | Thomas | communication of result (L) |

**Legend**
P: parent (Carol)
P<sub>B</sub>: parent holding baby (Carol holding Thomas)
S: screener (Lori)
B: baby (Thomas)
SD: screen device
RH: right hand
LH: left hand
### APPENDIX R: TRANSCRIPTION OF PHYSICAL BEHAVIOURS IN CASE 3 - CAROL AND THOMAS (RIGHT EAR)

<table>
<thead>
<tr>
<th>Counter (00:00 in minutes)</th>
<th>POSITION (e.g., P-S: side-by-side; P-S: face-to-face)</th>
<th>DISTANCE APART (in feet)</th>
<th>SCREENER'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>SCREENER'S FACIAL EXPRESSION</th>
<th>SCREENER'S EYE GAZE</th>
<th>PARENT'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>PARENT'S FACIAL EXPRESSION</th>
<th>PARENT'S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:06</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- sitting leaning forward</td>
<td>- not in view</td>
<td>Thomas</td>
<td>- sitting holding B in left arm, LH holding bottle</td>
<td>- neutral</td>
<td>Thomas</td>
<td>insert probe tip (L)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- hands near B's ears</td>
<td></td>
<td></td>
<td>- head leaning forward toward B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- RH on cable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- LH on probe tip</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:10</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- RH picks up SD from table</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Thomas</td>
<td>prepare screen device (L)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- LH holds cable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:12</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Thomas</td>
<td>- no change</td>
<td>- neutral</td>
<td>Thomas</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:14</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- eyebrows lowered slightly</td>
<td>SD</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:16</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Thomas</td>
<td>- no change</td>
<td>- neutral</td>
<td>Thomas</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:17</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- slight smile</td>
<td>Thomas</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:18</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- slight smile</td>
<td>Lori</td>
<td>wait for result (L,C)</td>
</tr>
</tbody>
</table>

**Legend**

P: parent (Carol)
P<sub>B</sub>: parent holding baby (Carol holding Thomas)
S: screener (Lori)
B: baby (Thomas)
SD: screen device
RH: right hand
LH: left hand
<table>
<thead>
<tr>
<th>Counter</th>
<th>POSITION (e.g., P-S: side-by-side; F-S: face-to-face)</th>
<th>DISTANCE APART (in feet)</th>
<th>SCREENER'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>SCREENER'S FACIAL EXPRESSION</th>
<th>SCREENER'S EYE GAZE</th>
<th>PARENT'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>PARENT'S FACIAL EXPRESSION</th>
<th>PARENT'S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:18</td>
<td>S-P₂ (angled towards ea. other)</td>
<td>S-P₂ (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- slight smile</td>
<td>SD</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:19</td>
<td>S-P₂ (angled towards ea. other)</td>
<td>S-P₂ (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- steady gaze</td>
<td>Lori</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:20</td>
<td>S-P₂ (angled towards ea. other)</td>
<td>S-P₂ (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>SD</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:21</td>
<td>S-P₂ (angled towards ea. other)</td>
<td>S-P₂ (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Thomas</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:22</td>
<td>S-P₂ (angled towards ea. other)</td>
<td>S-P₂ (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Lori</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:23</td>
<td>S-P₂ (angled towards ea. other)</td>
<td>S-P₂ (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>SD</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:25</td>
<td>S-P₂ (angled towards ea. other)</td>
<td>S-P₂ (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Thomas</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:29</td>
<td>S-P₂ (angled towards ea. other)</td>
<td>S-P₂ (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>Thomas</td>
<td>- no change</td>
<td>- neutral</td>
<td>SD</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:30</td>
<td>S-P₂ (angled towards ea. other)</td>
<td>S-P₂ (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Lori</td>
<td>wait for result (L,C)</td>
</tr>
</tbody>
</table>

Legend
P: parent (Carol)
P₂: parent holding baby (Carol holding Thomas)
S: screener (Lori)
B: baby (Thomas)
SD: screen device
RH: right hand
LH: left hand
<table>
<thead>
<tr>
<th>Time</th>
<th>POSITION (e.g., P-S; side-by-side; P-S; face-to-face)</th>
<th>DISTANCE APART (in feet)</th>
<th>SCREENER'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>SCREENER'S FACIAL EXPRESSION</th>
<th>SCREENER'S EYE GAZE</th>
<th>PARENT'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>PARENT'S FACIAL EXPRESSION</th>
<th>PARENT'S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:31</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>SD</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:33</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Thomas</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:35</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Lori</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:36</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>SD</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:37</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Thomas</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:39</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- slight smile</td>
<td>Thomas</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:40</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- leans forward slightly</td>
<td>- neutral focused attention</td>
<td>Thomas</td>
<td>- no change</td>
<td>- neutral</td>
<td>Lori</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:41</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- head lowers downward slightly</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Thomas</td>
<td>wait for result (L,C)</td>
</tr>
</tbody>
</table>

**Legend**

P: parent (Carol)
P<sub>B</sub>: parent holding baby (Carol holding Thomas)
S: screener (Lori)
B: baby (Thomas)
SD: screen device
RH: right hand
LH: left hand
<table>
<thead>
<tr>
<th>Counter</th>
<th>POSITION (e.g., P-S: side-by-side; P-F: face-to-face)</th>
<th>DISTANCE APART (in feet)</th>
<th>SCREENER'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>SCREENER'S FACIAL EXPRESSION</th>
<th>SCREENER'S EYE GAZE</th>
<th>PARENT'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>PARENT'S FACIAL EXPRESSION</th>
<th>PARENT'S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:42</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Lori</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:44</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Space in front of her</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:45</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- lifts head slightly upright</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Lori</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:46</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- turns head slightly to right</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Thomas</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:46</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- head tilted slightly towards left shoulder</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>SD</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:47</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Lori</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:48</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- no change</td>
<td>- neutral focused attention</td>
<td>SD</td>
<td>- no change</td>
<td>- neutral</td>
<td>Thomas</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:49</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- head moves to the left</td>
<td>- smile slightly</td>
<td>Thomas</td>
<td>- no change</td>
<td>- neutral</td>
<td>Thomas</td>
<td>wait for result (L,C)</td>
</tr>
<tr>
<td>4:50</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- no change</td>
<td>- smile slightly</td>
<td>Carol</td>
<td>- no change</td>
<td>- neutral</td>
<td>Lori</td>
<td>wait for result (L,C)</td>
</tr>
</tbody>
</table>

Legend

P: parent (Carol)
P<sub>B</sub>: parent holding baby (Carol holding Thomas)
S: screener (Lori)
B: baby (Thomas)
SD: screen device
RH: right hand
LH: left hand
<table>
<thead>
<tr>
<th>Counter 00:00 (in minutes)</th>
<th>POSITION (e.g., P-S: side-by-side; P-S: face-to-face)</th>
<th>DISTANCE APART (in feet)</th>
<th>SCREENER'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>SCREENER'S FACIAL EXPRESSION</th>
<th>SCREENER'S EYE GAZE</th>
<th>PARENT'S MOVEMENT (e.g., leaning forward, standing, sitting)</th>
<th>PARENT'S FACIAL EXPRESSION</th>
<th>PARENT'S EYE GAZE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:51</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- head moves right and downward</td>
<td>- smile slightly</td>
<td>SD</td>
<td>- no change</td>
<td>- slight smile in response to S</td>
<td></td>
<td>Thomas wait for result (L,C)</td>
</tr>
<tr>
<td>4:56</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (2.0)</td>
<td>- head moves up and left</td>
<td>- neutral focused attention</td>
<td>Thomas</td>
<td>- moved fingers slightly on end of bottle</td>
<td>- neutral</td>
<td>Thomas wait for result (L,C)</td>
<td></td>
</tr>
<tr>
<td>4:57</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (1.5)</td>
<td>- moves forward slightly - puts SD down on table - begins to talk</td>
<td>- neutral focused attention</td>
<td>Thomas</td>
<td>- no change</td>
<td>- neutral</td>
<td>Table in front of her</td>
<td>result obtained (L)</td>
</tr>
<tr>
<td>4:58</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (angled towards ea. other)</td>
<td>S-P&lt;sub&gt;B&lt;/sub&gt; (1.5)</td>
<td>- arms reach out in front - RH on probe tip near B's ear</td>
<td>- neutral focused attention</td>
<td>Thomas</td>
<td>- no change</td>
<td>- neutral</td>
<td>Thomas</td>
<td>communication of result (L)</td>
</tr>
</tbody>
</table>

Legend

P: parent (Carol)
P<sub>B</sub>: parent holding baby (Carol holding Thomas)
S: screener (Lori)
B: baby (Thomas)
SD: screen device
RH: right hand
LH: left hand