Speech impairment (speech sound disorder) is a high prevalence condition that responds well to early intervention provided by speech-language pathologists (SLPs). However, not all children in Australia are able to access necessary speech-language pathology services. The aim of this research was to investigate Australian parents' experiences of accessing and engaging in speech-language pathology services for their children with speech impairment. Two studies were conducted to achieve this aim. In ...
Expectations and experiences of accessing and participating in services for childhood speech impairment

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Key words: service delivery, speech impairment, speech sound disorder, children, intervention
Abstract

Speech impairment (speech sound disorder) is a high prevalence condition that responds well to early intervention provided by speech-language pathologists (SLPs). However, not all children in Australia are able to access necessary speech-language pathology services. The aim of this research was to investigate Australian parents’ experiences of accessing and engaging in speech-language pathology services for their children with speech impairment. Two studies were conducted to achieve this aim. In Study 1, questionnaires were completed by 109 parents of preschool children who had been identified with concerns about their speech. Only a third (n=34, 31.2%) of the parents had previously accessed speech-language pathology services for assessment of their children’s speech, and just 29 of these (26.6% of the entire sample) reported their children had received intervention. Two thirds (n=68, 62.4%) of the parents had not sought speech-language pathology services, and half of these (n=35, 32.1% of the entire sample) reported that “services were not needed.” There was a small number of parents (n=7, 6.4%) who had attempted to access services but had been unsuccessful. Parents identified teachers, family, friends and doctors as important sources of information about their children’s speech. In Study 2, interviews were conducted with 13 of the parents to discuss their experiences of speech impairment and service delivery in greater depth. Parents expected that others would make them aware of their child’s speech impairment and that they should be able to access speech-language pathology services when required. Consequently, there is a need to raise awareness about speech impairment and speech-language pathology services to ensure appropriate identification, referral, and service provision for children at risk.
Introduction

Speech impairment is a high prevalence condition (Law, Boyle, Harris, Harkness & Nye, 2000; McLeod & Harrison, 2009) which may have a significant impact on individuals (McCormack, McLeod, McAllister & Harrison, 2009) and society (Ruben, 2000). Children with a history of speech impairment in the preschool years have been found to experience higher rates of social difficulties, and are perceived more negatively by peers and teachers at school compared to children with no speech impairment (Crowe Hall, 1991; Glogowska, Roulstone, Peters & Enderby, 2006; Overby, Carrell & Berenthal, 2007; Silverman & Paulus, 1989). They can have difficulty with mathematics and literacy, including difficulty with phonological awareness, spelling, reading comprehension, and reading accuracy (Hesketh, 2004; Leitão & Fletcher, 2004; Lewis, Freebairn & Taylor, 2000; Nathan, Stackhouse, Goulandris & Snowling, 2004a). Consequently, children with speech impairment have been reported to require more school-based remedial assistance than their typically developing peers (Felsenfeld, Broen & McGue, 1994). Speech impairment may also affect one's future economic potential. In the USA in 2000, the unemployment rate was 75.6% for those unable to speak intelligibly, and the cost of communication impairment was estimated to be between 2.5 and 3% of the US Gross National Product (Ruben, 2000).

The United States and the United Kingdom recognise the potentially negative consequences of speech impairment and have mandated access to speech-language pathology services for preschool and school-aged children with speech impairment (Bercow, 2008; U.S Department of Education, 2004). In contrast, provision of speech-language pathology services for children with speech impairment in Australia (and indeed for all children with communication impairment in Australia) is variable.
(McKinnon, McLeod & Reilly, 2007; McLeod & McKinnon, 2007; McLeod, Press & Phelan, 2010). For example, states such as Victoria and Queensland provide government school-based speech-language pathology services, while New South Wales does not.

Children with speech impairment respond well to early intervention from speech-language pathologists (SLPs) (Almost & Rosenbaum, 1998; Law, Garrett & Nye, 2003). However, lack of intervention or late intervention (e.g., beginning in the school years) may have lifelong consequences for children with speech impairment, with a systematic review of the literature revealing difficulties may continue for at least 28 years (Law, Boyle, Harris, Harkness & Nye, 1998). Thus, it is important to determine the number of children in Australia who are not receiving necessary speech-language pathology services and to investigate barriers to their access, in order to advocate for improved speech-language pathology services for this population.

**Seeking Services**

For children with speech impairment in Australia, advocacy for speech-language pathology services is limited. Teachers and SLPs have limited advocacy roles as the policies within the disability, health and education departments frequently exclude children with speech impairment (e.g., New South Wales Department of Education and Training, 2003) or are inconsistent across states and government departments (McLeod, Press & Phelan, 2010). Therefore advocacy and pursuit of intervention for young children with speech impairment is often left to parents. As a result, it is important to know what alerts parents to the need to pursue speech-language pathology services for their children, and what motivates them to do so. Further, it is important to learn what experiences parents have as they seek, access and receive speech-language pathology services. Currently, there is some literature
describing the experience of families once they begin to receive intervention (Band et al., 2002; Glogowska & Campbell, 2000; Paradice & Adewusi, 2002; Watts Pappas, McLeod, McAllister & McKinnon, 2008). However, literature regarding the experiences of families in trying to access speech-language pathology services is scarce.

McCormack, McLeod, McAllister and Harrison (2010) conducted a qualitative study describing experiences of living with a speech impairment as perceived and understood by children with speech impairment and their communication partners. They found that parents were motivated to seek services as a way of solving their child’s speech problem, which they had identified as a result of communication breakdowns between themselves (or others) and their children. Parents also sought services when other people volunteered advice or comments about their child’s speech difficulties.

Previous studies (e.g., Piggot, Hocking & Paterson, 2003; Watts Pappas, 2008) have identified a major motivation of parents to seek intervention is their desire to do the right thing by their children. Watts Pappas (2008) identified that parents of children with speech impairment wanted to do the right thing to ensure their children were ready for school. This motivated them to access intervention, to be involved in intervention, and to ensure the intervention experience was a positive one for their children. According to Watts Pappas (2008), accessing intervention could be a lengthy and difficult experience for families; however, once speech-language pathology services had been accessed, parents were happy to allow the SLP to make the decisions and direct the intervention process.

Accessing Services
Not all parents can access speech-language pathology services despite their children’s need for these services. McLeod and Harrison (2009) examined data from a national study (Longitudinal Study of Australian Children, Australian Institute of Family Studies, 2007) to investigate families’ use of speech-language pathology services when children (aged 4-5 years) were identified with expressive speech and language concerns. They reported that speech-language pathology services had not been accessed by two thirds ($n=43,171, 67.7\%$) of the families who had identified concerns. However, some of these parents ($n=5,092, 8.0\%$) indicated that their child needed but was unable to access these services. For families who were able to access speech-language pathology services but had not done so, it is not clear whether lack of awareness of the benefits of these services, or of how to access services, may have contributed to their lack of uptake of speech-language pathology (McLeod & Harrison, 2009).

**Barriers to Access and Engagement**

**Policy barriers.**

In Australia, children with communication impairment of unknown origin are largely invisible in policy documentation (McLeod, Press & Phelan, 2010). For instance, in New South Wales (NSW), the most populated state in Australia, the Department of Education and Training (2003) *Focus on literacy: Talking and listening* document does not acknowledge that students with speech, language or communication impairment exist; nor does it acknowledge that SLPs may be facilitative in assisting children with difficulties associated with talking and listening. However, McKinnon, McLeod and Reilly (2007) investigated 10,425 children in an Australian school district and found teachers of students with speech impairment perceived that over half the students required at least a moderate level of support in
order to be included in their classroom. In stark contrast, these teachers indicated that most of the students with speech impairment received no (33.5%) or minimal (22%) learning support. No/minor curriculum adaptation was made for 84.8% of the students with speech impairment and 91.1% of students with speech impairment did not have an individualised education plan (IEP). Almost one-quarter (24.1%) had no involvement with outside agencies (including speech-language pathology services).

Research shows that not only do some children not grow out of their preschool speech problems (Leitão, & Fletcher, 2004; Roulstone, Miller, Wren & Peters, 2009) but that failure to commence intervention before age 5, means the critical time for effective and efficient intervention may have passed (Bishop & Adams, 1990; Nathan, Stackhouse, Goulandris & Snowling, 2004b). Thus, assumptions that children with speech impairment will improve without intervention or that they require little support once they reach school are erroneous, and policies and practices based on such assumptions need to be changed.

**Service barriers.**

A further barrier to access for some families (particularly those in rural and remotes areas of Australia) is the lack of SLPs who service the areas in which they live (O’Callaghan, McAllister & Wilson, 2003). Verdon, Wilson, Smith-Tamaray and McAllister (2010) mapped the distribution of paediatric speech-language pathology services across two states of Australia (NSW and Victoria) and showed that there are large rural areas in both states without accessible paediatric services. Families must either travel long distances to sites of speech-language pathology services or rely on intermittent outreach services from towns with ‘base clinics’ that have a remit to visit outlying centres. Usually such outreach services are infrequent and may rely on home or classroom programs for parents or teachers to implement, or intervention may be
provided on a group basis. The work of Watts Pappas (2008) indicates that this is not what many Australian parents want; they want one to one intervention for their child delivered by the person they consider the expert in this field: an SLP. For other families, their access to speech-language pathology services may be restricted to a particular duration. That is, the number of intervention sessions may be limited to short blocks of intervention regardless of severity, due to limited resources (personal communication with SLPs in New South Wales and Queensland Health).

SLPs often report anecdotally that parents of the children they see have been told by doctors that their children with speech problems will ‘grow out of it’. Thus, a further barrier to accessing speech-language pathology services for children with speech impairment may be failure to identify the speech impairment and/or to refer families to SLPs for management. Short, Woolfenden, Blackmore and Best (2010) investigated how Australian general practitioners (GPs) identify and manage communication impairment in children aged 0-5 years. They found the majority of GPs in their sample of 277 believed they had adequate knowledge and training to identify communication impairment in children, but most also reported that they would like additional training. Furthermore, a quarter of GPs reported that they would not refer a child with communication impairment to a SLP (referring to other professionals, such as paediatricians, instead). Over half the GPs in their study felt that there were barriers to referring to speech-language pathology services, including waiting lists, availability of services and costs.

**Parent and child barriers.**

Parental attitudes to referral and involvement in treatment may act as a barrier or facilitator to accessing and engaging in speech-language pathology services. Glogowska and Campbell (2000) identified three phases in parents’ involvement in
speech-language pathology services for their children with speech and language impairment: referral and getting in, getting on and getting out. In the referral and getting in phase, most parents reported feeling pleased, relieved and reassured that referral was going ahead, as referral was usually something they had advocated for. However, for some parents there was concern that the assessment might identify difficulties in their child arising from physical or cognitive problems. One parent in the study initially resisted referral in the belief that “any speech problem the child was experiencing was likely to be transient and he was, therefore, not in need of SLT [speech-language therapy]” (Glogowska & Campbell, 2000, p. 397) Thus, parent and child readiness is necessary for families to access and engage in speech-language pathology services successfully.

**Research Aims**

It is clear from the literature that not all parents of children with speech impairment attempt to access speech-language pathology services or are successful in their attempts. The current paper examines Australian parents’ expectations and experiences of accessing and participating in services for their children with speech impairment. The research draws on a subset of data from a large study of speech impairment in a community (non-clinical) sample of Australian preschool aged children, henceforth referred to as the Sound Effects Study (McLeod, Harrison & McAllister, 2007-2009). Two studies are reported, both of which describe the experiences of parents whose children were identified (by their parents or teachers) as having speech difficulties. Study 1 used statistical analysis of data provided by parents in a questionnaire to investigate the following questions:

- What proportion of the children had received/were receiving speech-language pathology services?
• What were barriers to service access for families of children not receiving services?

• What other services and sources of information were accessed by families when they had concerns about their children’s speech?

Study 2 used interviews with a subset of the parents from Study 1 to obtain more in-depth information of their experiences, and barriers/facilitators to accessing and engaging in speech-language pathology services.

**Study One**

**Method**

**Participants.**

Participants in the current study were all involved in the Sound Effects Study, part of an Australian Research Council Discovery Project (DP0773978) investigating prevalence, severity, impact and service delivery for children with speech impairment (McLeod et al., 2007-2009). During the first stage of the Sound Effects Study, parents and teachers at 33 early childhood centres in Victoria and NSW were requested to complete a screening questionnaire identifying any concerns about how their preschool child(ren) “talk and make speech sounds.” There were 143 children identified by their parents and/or preschool or child care teachers with concerns (yes/a little), about how they “talk and make speech sounds” and whose parents consented to have their child assessed by a speech-language pathologist. During the second stage of the Sound Effects Study, comprehensive communication assessments were conducted with the children. Those who were currently accessing or had previously accessed speech-language pathology services were not excluded from the assessment. Parents were requested to complete questionnaires during their child’s assessment. Some parents did not complete the questionnaires during this session and later mailed
them back to the researchers. However 34 parents did not return their questionnaires. In the present study, data are based on responses received from 109 parents (76.22%) unless otherwise specified (see McLeod, Harrison, McAllister & McCormack, 2010, for additional details about recruitment and participation).

The 109 children whose parents responded to the questionnaire had a mean age of 55 months (SD = 4.9, range = 47-68 months). There were 72 boys (67.1%) and 37 girls (33.9%). The children’s speech was assessed using the Diagnostic Evaluation of Articulation and Phonology (DEAP; Dodd, Hua, Crosbie, Holm & Ozanne, 2002). They had a mean percent consonants correct of 69.9 (SD = 13.8, range = 32.6-96.4), mean percent vowels correct of 95.9 (SD = 4.5, range = 79.5-100), and percent phonemes correct of 79.3 (SD = 9.9, range = 52.3-97.7).

Participants were from the two most populated states in Australia: New South Wales (53.2%) and Victoria (46.8%). Rural, regional and metropolitan areas were represented. The number of respondents from each area was proportional to the population of the area as determined by census data (Australian Bureau of Statistics, 2007), so that almost half was from a metropolitan area (45.9%) and a quarter was from a major regional centre.

Demographic data on the family units represented by the 109 parents completing the questionnaire revealed most respondents were mothers (n=103; 94.5%), although one father (0.9%) completed the questionnaire, and both parents completed the questionnaire for 3 children (2.8%). For two children (1.8%), the respondents were the child’s adoptive parents. Most mothers were between 30-39 years (61%) or 20-29 years (35%) at the birth of their child, although one mother was less than 20 years and three mothers were aged over 40 years. Information was not provided for nine mothers.
Education levels varied among families with half of the respondents (50.0%) reporting that the child’s mother had a university qualification, and 40% reporting the child’s father had a university qualification. Approximately one-third (32.7%) of mothers and 41% of fathers were reported to have a trade certificate or diploma. A smaller percentage of parents (16.3% of mothers and 15% of fathers) had not completed additional training or post-secondary qualifications.

The weekly income also varied for respondents, with 20.4% of families reporting an income of $2400+ per week and 14.2% of families reporting an income of $500 or less per week. The average income for families was between $1000 and $2000 per week. Eleven families did not respond to this item.

Most of the respondents reported that English was the only language spoken by the child’s mother (96.3%) and father (93.4%). However other languages including Italian, German, Serbian, Dutch and Tamil were reported to be spoken by one or both parents in other families.

**Questionnaire.**

A 77 item questionnaire was developed for completion by parents of children participating in the larger Sound Effects Study. The questionnaire contained several sections including children’s general development and health, speech and language development, and families’ access to a range of healthcare services. Questions were based on those used by Broomfield and Dodd (2004), Fox, Dodd and Howard (2002), the Australian Institute of Family Studies (2007) or were developed especially for this study. The questionnaire was piloted on 12 families and led to improvements in formatting and wording of the questions. The questionnaire took approximately 20-30 minutes to complete. The present paper only reports data pertaining to parental concern about their child, sources of information regarding their child’s speech
impairment, and use of services for the child’s speech impairment, including difficulties they had with accessing appropriate services.

**Data analysis.**

Responses to the questionnaire items and assessment results from the 109 children were entered into the Statistical Program for the Social Sciences (SPSS) Version 17.0.2 computer program (PASW Statistics, 2009). Descriptive statistics were used to summarise and examine parents’ responses to the questionnaire.

**Results**

**Parental concern.**

Parents were asked to give a broad rating of their concern regarding their child’s development (1 = none, 2 = a little bit, 3 = some, 4 = quite a bit, 5 = a lot). Results presented in Table 1 showed that parents were more likely to be concerned about their children’s communication (n=89, 82.4% gave a rating of 2 or above), than their physical health (n=39, 35.8% gave a rating of 2 or above) or emotional wellbeing, happiness and behaviour (n=54, 50.0%).

[Insert Table 1 here]

Parents were asked to rate their level of concern about their child’s talking, using a 6-point scale (1 = not concerned, 2 = sometimes concerned, 3 = often quite worried, 4 = always quite worried, 5 = often very worried, 6 = always very worried). Results showed that the majority were “sometimes concerned” (n=62, 57.4%) or “often quite worried” (n=20, 18.5%) about their child’s talking.

Parents were asked to identify if they had any concerns about their child starting school (yes/no), and almost half the parents (n=45, 41.3%) reported being concerned. Those who identified concerns (yes) about their child starting school were then asked to list their areas of concern. Analysis of these open-ended responses
revealed the area of greatest parental concern was their child’s communication skills (n=16, 38.0% of the 45 parents who identified concerns). Socio-emotional concerns (n=13, 31.0%) were also commonly reported, while concerns about literacy, and fine motor skills were identified by fewer parents (n=4, 9.5% for each skill). Other concerns (including their child’s age relative to the average of children commencing school or concentration level) were reported by five (11.9%) parents, and 11 parents (26.2%) did not specify their area of concern.

**Access of speech-language pathology services.**

Parents (n=109) were asked about their utilisation of speech-language pathology services (see Figure 1). The majority of parents (n=68, 62.4%) had not attempted to access speech-language pathology services; half because they felt that these services were not needed (n=35, 32.1%). Forty-one parents (37.6%) reported having attempted to access speech-language pathology services for their children and most children (n=34, 31.2%) had subsequently been assessed by an SLP. However, seven parents (6.4%) reported that they had been unable to access speech-language pathology services despite their attempts. There were 29 children (26.6%) who had been assessed and then received intervention. At the time of the study, however, only 15 of the 29 children (14.9%) were currently receiving intervention. Parents reported that one-to-one intervention sessions in a clinic were the most frequently received services (n=27, 93.1%). Some received home programs (n=11, 37.9%) or group intervention sessions in clinics (n=5, 17.2%) in addition to, or instead of, one-to-one sessions.

[Insert Figure 1 here]

Parents’ access of speech-language pathology services was examined in relation to parents’ level of concern about their child’s speech, and severity of speech
ial impairment as measured by the percent consonants correct (PCC) obtained on the formal speech assessment (DEAP; Dodd et al., 2002). Results are presented in Tables 2 and 3 for the children whose families had accessed or attempted to access speech-language pathology services (n=41) and the children whose families had not attempted to access services (n=68). There was a significant relationship between seeking speech-language pathology services for children and parental level of concern. As Table 2 shows, parents who had sought speech-language pathology services for their child were more likely to report a higher level of concern, although paradoxically, two of the most worried parents had not yet accessed services for their children.

Table 2 shows the mean PCC obtained by children whose parents had and had not attempted to access speech-language pathology services. The lowest mean PCC (63.17), signifying the most severe speech impairment, was found for the group of children whose parents had attempted to access services. Thus, parents who were concerned about their child’s speech and attempted to access speech-language pathology services were found to be justified in their concern in most instances. However, the group of children with the second lowest PCC (68.84), and second most severe speech impairment, had not accessed speech-language pathology services.

Table 3 shows the mean PCC obtained by children whose parents had and had not attempted to access speech-language pathology services. The lowest mean PCC (63.17), signifying the most severe speech impairment, was found for the group of children whose parents had attempted to access services. Thus, parents who were concerned about their child’s speech and attempted to access speech-language pathology services were found to be justified in their concern in most instances. However, the group of children with the second lowest PCC (68.84), and second most severe speech impairment, had not accessed speech-language pathology services.

There was no significant difference between parents’ access of services and who (parent/teacher/both) had identified concern regarding the child’s speech. The majority of children in both groups (those who had accessed services and those who had not) had been identified by both parents and teachers, or by parents alone. There were only seven children whose teachers had identified concern when parents had not.
However, there did appear to be a link between family history of communication impairment and the decision to access speech-language pathology services. For 27 of the 41 families (65.9%) who had accessed or attempted to access speech-language pathology services, there was a family history of difficulties with speech, language, literacy or hearing. In contrast, a family history of communication difficulties was reported for 35 of the 68 families (51.5%) who had not accessed services.

Thirty-seven of the 68 parents who had not attempted to access speech-language pathology services for their children with communication difficulties responded to questions asking them to indicate why they had not accessed these services. The majority (n=35, 94.6%) identified that they “did not need services;” however one parent indicated that services were too far away, and another indicated “other” reasons had contributed to their decision. However, the reason(s) behind many family’s decisions not to access services remains unknown, due to missing data (n=31).

**Barriers to accessing and receiving speech-language pathology services.**

For the seven families who had tried to access speech-language pathology services but had been unsuccessful, three reported the long wait for services was a barrier to access, and two each reported non-availability of services and cost. One family identified the operating hours, and another the distance to services as barriers affecting their access. There was no apparent difference in access to services reported by parents at each level of rurality, and barriers such as waiting lists and cost of services were common to families living in both metropolitan and rural/regional areas. However, the small number of respondents from rural areas, and the small number of respondents from all areas who identified barriers to access (n=7) precluded further statistical analysis from being completed.
All parents were asked to indicate the extent to which they needed support or help but could not receive it. Most indicated that they “didn’t need support or help” (n=30, 27.8%), or “never” felt that they couldn’t receive support or help when it was needed (n=48, 44.4%). However, a quarter of parents (n=27, 25.0%) reported “sometimes” needing support/help without receiving it, and three (2.8%) parents reported this was “often” the case.

Parents’ sources of information about speech and language difficulties.

Parents were asked to indicate their top three sources of information about their child’s communication difficulties from a given list. Listed sources included personal connections (e.g., family members, friends), professionals (e.g., SLPs, teachers) and media (e.g., books, magazines, Internet). There were 103 parents who responded to this questionnaire item, and results are summarised in Table 4. Teachers (n=73, 70.9%), family members not living with them (n=58, 56.9%), and friends (n=48, 46.2%) were parents’ most frequent information sources. Of the professional sources, teachers (n=73, 70.9%) were more commonly accessed for information about communication difficulties than SLPs (n=32, 31.1%) and GPs (n=20, 19.4%). Of the media sources, the Internet (n=12, 11.7%) and books, newspapers and magazines (n=11, 10.7%) were the most commonly accessed sources.

Sources of information were further examined by comparing parents’ responses by state (Victoria vs. New South Wales), given that different policies exist in each state regarding access to and provision of speech-language pathology services for children. Results showed very few significant differences (Table 4); however, parents in Victoria (n=39, 81.3%) were significantly more likely to report using teachers as a source of information compared to parents in NSW (n=34, 61.8%). In
contrast, parents in NSW (n=9, 16.4%) were more likely to use books, magazines and newspapers compared to Victorian parents (n=2, 4.2%).

Parents were then asked to indicate the community services they had accessed for assistance, and those that they needed but were unable to access (from a given list). Results presented in Table 5 showed that playgroups (n=49, 50.0%) and GPs (n=49, 49.5%) were most commonly accessed for assistance with their child’s communication development, followed by maternal and child health centres (n=39, 39.4%) or nurse visits (n=37, 37.8%). Speech-language pathology services (n=33, 32.7%) were used by fewer parents, which may reflect lack of awareness and/or lack of availability of these services. Although speech-language pathology was not the most common service used by parents to assist children, it was the service reported to be needed but not obtainable by the most parents (n=7, 6.9%).

**Study Two**

The data in Study 1 suggested that parents had differing levels of awareness of appropriate speech-language pathology services and mixed experiences in being able to access appropriate information, support and services for their children with speech impairment. Study 2 was conducted to clarify the issues for parents in seeking and engaging with services for their children with speech impairment.

**Method**

**Participants.**

The 13 parents who participated in the interviews were chosen from the 143 parents of children participating in the Sound Effects Study using purposive sampling (Patton, 2002). The interviews represented the third and final stage of the Sound Effects Study. Parents represented the spectrum of family characteristics, severity of their child’s speech impairment, rurality, and access to and experience of speech-
language pathology services. Table 6 profiles the parents and children in terms of these variables. Names assigned to parents and children in this Table and throughout this paper are pseudonyms, used to protect the identity of the participants.

[Insert Table 6 here]

**Interviews.**

The second author, a qualified speech-language pathologist, conducted semi-structured interviews lasting between 10 and 50 minutes depending on how much the parents wished to discuss. The interviews were conducted in the family home or early childhood centre the child attended. Questions were guided by the Speech Participation and Activity Assessment – Children (SPAA-C; McLeod, 2004), and the International Classification of Functioning, Disability and Health – Children and Youth (ICF-CY; World Health Organization, 2007). The nature and scope of these interviews is described in more detail in McCormack et al. (2010). Interviews were in accordance with established protocols for qualitative interviewing (Minichiello, Aroni & Hays, 2008). They followed a conversational style of questioning in which a fixed set of questions was not used, but rather participants were asked open-ended questions regarding key topics, and the order of questions was flexible.

**Data analysis.**

Transcripts from all of the interviews were analysed by the first two authors. Analysis was based on the phenomenological approach (see for example van Manen, 1990), which attempts to give meaning to a phenomenon as described by individuals who experience that phenomenon. In the current study, the analysis was oriented around the phenomenon of access to and provision of speech-language pathology services for children with speech impairment and their families, as described by parents of children with speech impairment.
The interview transcripts were analysed in NVivo - Version 7.0 (QSR International, 2002), with the focus on content related to service access and delivery. Content from each transcript was coded separately according to key words and phrases. Following the initial sorting of interview data into key word and key phrase codes, coding was refined through comparing within and across interview transcripts using the process of constant comparative analysis (Patton, 2002). Patterns were found to emerge in the data, and codes were collapsed into overarching patterns which we refer to as themes. Rigour in qualitative research is important (Minichiello, Aroni & Hays, 2008), and the rigour of our methods was ensured in two ways; firstly by evaluating the robustness of our analysis by conducting additional interviews with six of the thirteen parents to update information about services accessed. Data analysis of these interview transcripts yielded the same themes. Secondly, the authenticity of the analysis was checked using the process of participant validation, whereby families taking part in the additional interviews were asked to comment on the identified themes to ensure they reflected participants’ views, and not any biases held by the researchers.

Results

Two overarching themes were identified in the parents’ descriptions of accessing and engaging in intervention: they needed to “be aware” and they needed to “be able”. Families had expectations of others in order that they would become aware of problems with their child’s speech, and they had expectations of services that they would be able to access them when and where they were needed. When parents’ expectations were met, their experiences were positive. When their expectations were not met, they reported negative experiences. These themes are presented in Figure 2 and discussed further in the following sections.
Accessing services.

Being aware.

In order to access services, families had to be aware that a problem existed; that is, parents needed to know that their child had speech impairment. Parents, such as Jamie’s mother, reported other people made them aware of concerns:

Jamie’s mother: Before Jamie had the grommets inserted, we as parents understood him but it was our friends and his brother that found him difficult to understand. Even after the grommets were inserted friends and family recommended we should do something about his speech. The advice was better sooner than later. I personally didn’t have concerns but was “urged” by friends and my husband to seek help. I was with the opinion that it took time and his speech would improve.

Some parents reported having expectations that other people (such as teachers) would confirm their concerns. They expected others to have greater knowledge of speech development and consequently to be able to identify speech impairments in their children, and provide timely advice to parents about whether a problem existed and where to go for help. Grace’s mother reported that her expectations were fulfilled. She wanted and received confirmation about concerns:

Grace's mother: It wasn’t until she started - she was four when she started at the childcare centre and they said to us within the second week, “we’re really struggling to understand her” ‘cause they were doing news each week and things like that… And so that confirmed my suspicions.
However, the mother of Gus and Ewan (twins) reported this expectation that their teacher would alert her to speech problems was not fulfilled:

Gus and Ewan's mother: The big downer for us is that they’ve been at preschool since they were two. I would’ve expected…I did always think there was a problem and they [teachers] have said “no” to me, and I would expect that this [speech assessment] would’ve been done a lot sooner. I do expect these sort of things to be picked up at a preschool because…as far as I’m aware they’re meant to be doing that, you know, they’re meant to be assessing the kids and looking at them and…I feel a little bit let down in that respect in that I think this could’ve been picked up at least a year ago.

Zac’s mother wanted further information from his teacher about the severity of the speech impairment in order to decide whether intervention was required (see below).

Zac's mother: We’re just confused. I suppose we really should be asking [teacher] again. Like, I mean is it a real issue, or …?

When families’ expectations were not fulfilled, and they were not made aware of their child’s speech impairment, they experienced confusion and guilt. In contrast, when families’ expectations were fulfilled, and children were appropriately identified, parents wanted to know who to see and where to go for assistance.

Patrick’s mother: I didn’t want to waste my time or money with someone I hadn’t [heard about]… and I’d heard a lot of things about [private SLP] - good things - and went with her.

Jamie’s mother: We went out and found a speech pathologist recommended by a friend and also our paediatrician.
Parents who were aware of their child’s speech impairment and of how to access speech-language pathology services typically accessed services at appropriate times, unless they experienced a barrier to “being able.”

**Being able.**

To be able to access speech-language pathology services, the services needed to be available at an appropriate time, cost and distance for the family. Parents reported a range of experiences in their ability to access services to assist their child with speech impairment. Some, such as Lilah’s mother, expected and experienced no barriers to access:

Lilah's mother: She started having speech pathology probably when she was about three…I think I initiated it with the early childhood nurse and she said it might be a good idea to get it checked…We only had a little wait and we haven’t had any trouble getting back in when we got back [from holiday].

However, for others, expectations that services would be available were not met (see below):

Grace's mother: I think there was a terrible staff shortage. I think that was the biggest issue. ’Cause every time they’d ring and they’d say that “so and so had left” and “we’re waiting on someone else to start,” and of course they were getting a big backlog…

Matt’s mother reported a similar experience:

Matt's mother: I had to ring up and make another appointment [for Matt’s sister] and I did ask how the progress [with Matt’s appointment] was going back then. That was probably about 3-4 months after Matt’s… appointment [initial referral]. And they said “no,
nothing’s changed, he’s still on the waiting list. And there’s also an 18 month waiting list for [sister] too.”

For Grace’s and Patrick’s mothers, the lack of public services in their town was a barrier, and the distance to alternative (private) services was an additional barrier:

Grace's mother: I said to the paediatrician, “Look it’s getting to the point where I’m really wanting to do something about this…” And he wrote a referral for the community health centre ‘cause he said “Look there’s nowhere private here – you’d have to travel.” And I would have travelled if I didn’t have [Grace’s brother] at school.

Alternatively, some parents perceived available services as inappropriate or too expensive (see below).

Zac's mother: There’s a place in [town] that are offering small group sessions for $60 per child per hour, and it’s a small group. So I find that incredibly dear [expensive]. And that’s school readiness...So I sort of looked at that, but then I looked at the cost, and I thought, that’s a small group. Honestly. You know, one-on-one, that would be fine. That’s a lot of money … And what does a ‘small group’ mean? Is that two, or is that four, or five, or six? And once you’re getting up past one or two … really for speech, they’re not going to keep the concentration … and also [they might be] listening to other children botch things up…[make mistakes]

Parents also reported diverse experiences and barriers to engaging with services.

**Engaging in services.**

**Being aware.**
In order for families to engage in speech-language pathology services, they reported needing to be aware of what intervention would assist their child and how it would assist. Parents, such as Zac’s mother, wanted to “know” what they could do to help:

Zac's mother: I just tried to sit him down with something the other day, but I grabbed something too advanced… and I was trying to juggle three children. And I had the baby. So I needed – if I’d had something that I knew would work for him …that would’ve helped.

Lilah’s mother knew how she could help, and was prepared to continue working on activities at home in order to prevent future difficulties:

Lilah's mother: I know it’s something we’ll probably always have to work on at home as well because I know that literacy can follow on from speech difficulties. But we’ve always read to her since she was a baby.

**Being able.**

Engagement in speech-language pathology services was also reliant on families having the ability to engage. Initially, engagement in services required children being ready to accept help. Some parents, such as Grace’s mother, reported their children were ready to accept help:

Grace's mother: [Initially] if Mum or Dad tried to correct her she would almost…she wouldn’t repeat it or do anything. It was almost like she would rather say nothing than be corrected…so it was really difficult. But since she started speech in January, it was
almost like…just the right time. She was willing to accept help and she was starting to try anyway.

However, others, such as Jamie’s mother, reported a different experience:

Jamie’s mother: I just couldn’t get Jamie to sit down and do the exercises. So I thought, “Well if the child’s not keen you can’t push him for he will not learn anything, he will just see it as a chore.” So I let him be. I stopped attending the speech pathologist…

To be able to engage in intervention, families reported needing to have a good relationship with the SLP (see below).

Jamie's mother: You have to have a particular sort of personality to actually do speech pathology and work with children.

Some participants, such as Patrick’s mother, reported not having a good relationship with the SLP and so having to go elsewhere:

Patrick’s mother: He goes to a private speech therapist now, ‘cause I wasn’t really happy with community health…He just, I mean he was only seeing one person but he just didn’t gel with her very well… And, I don’t know, he does a lot better with the lady he sees now.

Families reported that intervention needed to fit within their daily life and routines if they were to be able to engage in services. That is, they needed both readiness and capacity to engage with services.

Zac’s mother: What we’ve tended to do is just to do it [intervention activities] in the car. So we’ve just been doing, like tongue ties [twisters] and making up silly rhymes and repeating sentences. ’Cause it was just trying to work out what would be something that we could do that can work with four children! [laughs]
For some parents, intervention was classed as work, and they felt the need to balance this with play time for their children.

Evelyn's mother: I suppose I don’t want everything [intervention] to be too intense.

Some families also reported having difficulty balancing intervention with the demands of daily life.

Jamie's mother: I guess when you are at the clinic he’ll actually do it, but finding time at home is always difficult and you always get interrupted. If we can get half hour per week it is better than nothing.

Matt's mother: He has been playing that memory game often and even if I don’t get a chance he will play with his sister. I will get them to sit down and...I’ll just say to [sister] can you make sure he says the words. So that’s a bit of a help because it does get quite busy sometimes.

When families’ expectations of services were fulfilled, they were more likely to participate in services willingly, and experience satisfaction with services. However, when their expectations were not fulfilled (i.e. when children were not ready for intervention, or did not have a good relationship with the SLP), they were more likely to experience frustration or dissatisfaction.

Discussion

Accessing and Engaging in Services and Barriers to “Being Aware”

Parents participating in the Sound Effects Study all had children identified with concerns about how they “talk and make speech sounds.” In Study 1, more than three quarters of the 109 parents who returned questionnaires reported being sometimes or often quite concerned, yet only one third had accessed speech-language pathology services for their children. This figure is consistent with that reported by
McLeod and Harrison (2009) in their investigation of the prevalence of speech impairment and utilisation of speech-pathology services in a nationally representative sample of preschool children.

In the current study, among the families who had attempted to access services, two thirds reported a family history of speech/language/literacy difficulties, which may reflect the impact of awareness on access. That is, it may be that parents who have experienced, or observed other family members experience, communication difficulties are inclined to access speech-language pathology services because they understand the potential impact of those difficulties, and the benefits of intervention. The parents who had attempted to access speech-language pathology services were also those whose children had the most severe speech impairment. This suggests parents are able to identify speech impairment (particularly when the impairment is severe), and their concern is often consistent with clinical diagnosis. However, there was a large group of children who presented with low PCC scores whose families had not accessed speech-language pathology services. Given these parents had identified concerns about their children’s speech, the reasoning behind their decision not to access services is unclear, but given the potential impact of untreated speech impairment, their decision is of concern. Further investigation of factors influencing their decision is warranted.

When questioned about barriers to access, half the parents who had not attempted to access services reported they “did not need services.” It is possible that parents’ perceptions were related to a lack of identification or confirmation about their child’s speech impairment. In interviews conducted in Study 2, parents reported waiting for others (including teachers, GPs and nurses) whom they believed to be more qualified to make a judgement about the need for speech-language pathology to
point out problems or confirm the validity of their own concerns.

The parent questionnaires showed that teachers were the most commonly identified source of information about children’s communication difficulties, particularly in the state of Victoria which has a school-based speech-language pathology service. Parents with older children at school may have sought advice from primary school teachers they knew. Interviews provided further evidence of parents’ reliance on preschool teachers for identification or confirmation of speech difficulties. Some parents reported that their child’s preschool teachers had fulfilled this expectation, while others (such as Gus and Ewan’s mother) reported they had not. When timely identification of speech impairment did not occur, some parents were frustrated and concerned that important intervention time had been lost. Hence, confirmation of parental concern by their child’s preschool or early childhood teacher may be an important step in their decision to access speech-language pathology services. However, teachers at all levels of the education system may feel limited in their knowledge and skills in identifying and managing children with speech and language impairment (Dockrell & Lindsay, 2001; Marshall, Ralph, & Palmer, 2002), or may be reluctant to label children as having an impairment. The findings from the present study are consistent with those from other research studies indicating that teachers need more knowledge about communication development and disorders in children in order to be able to identify children who need referral to SLPs for assessment and intervention (Antoniazzi, Snow & Dickson-Swift, 2010; Mroz, 2006). Teachers may benefit from training in ways to raise such issues with parents.

Findings suggest the need for greater dialog between teachers and SLPs. Ideally, this input from SLPs should occur in collaborative work with teachers in educational settings (Antoniazzi, et al., 2010) in order to support both students with
communication impairment and their teachers to address their learning needs (McLeod & McKinnon, 2010). Currently, many states in Australia do not employ SLPs in educational settings, or only enable limited time in direct contact with teachers (due to workloads and caseload sizes). Thus, speech-language pathology input into teacher education programs at universities and continuing professional development programs may be warranted.

Similarly, SLPs could provide input into GP training and continuing professional development programs. Half the parents in our study reported using their GPs to assist their children with communication impairment, and one fifth sought information from them about children’s communication difficulties. Short and colleagues (2010) suggested that when GPs understand indicators of possible communication impairments in preschool aged children, they can be an effective source of referrals. Nonetheless, one third of the GPs surveyed by Short et al. (2010) felt their training in this area was poor.

Maternal and child health nurses (MCHN) were used by almost 40% of parents in the present study. The interview data suggested that MCHNs were able to provide the information and support some parents were seeking when they have concerns about their children’s communication development.

Parents frequently identified family members and friends as other important sources of information, and identified playgroups as a common community service used to assist their children with communication difficulties. However, these members of the general public may have limited knowledge about communication development, delay and impairment, and how to access speech-language pathology services. Data from the present study showed that some parents sought information on children’s communication difficulties from books, magazines, newspapers and the
Internet. Therefore, the national speech-language pathology association may consider re-examining its strategy for educating other professions and the public about children’s communication development, impairments and referrals.

**Accessing and Engaging in Services and Barriers to “Being Able”**

Just over a quarter of parents in Study 1 indicated that their children had or were currently receiving speech-language pathology intervention, and for most, this intervention took the form of one-to-one sessions (reported by 93.1% of parents whose children had intervention, irrespective of whether this was received in metropolitan or regional/rural settings). Direct intervention was often supported by programs devised by the SLP but delivered in the home by parents; and group intervention sessions delivered by SLPs were used in 17.2% of cases. Interview data suggested parents in this study resisted group intervention on the grounds of not seeing the benefit to be gained relative to the cost, and concerns that their child may learn incorrect speech patterns from other children. There is some evidence that group intervention has benefits for children with speech impairment (e.g., Page, Pertile, Torresi, & Hudson, 1994). Consequently, SLPs may need to inform or convince parents of their value. In particular, parents need education regarding the nature of group therapy including its purposes and processes, as well as information about how outcomes will be achieved for their child individually and for the group. It may be that when parents have to wait and struggle for services, they want individual assistance for their child. SLPs need to be sensitive to parents’ preferences and deliver what Watts Pappas and McLeod (2009) have called “family-friendly intervention,” whilst also educating parents and the public about alternatives so that services can be accessed by a larger number of people.

Parents who unsuccessfully attempted to access speech-language pathology
services identified five barriers (on the questionnaire) that prevented their access: waiting lists, non-availability of services, cost of services, distance to travel to services, and operating hours of services. Interviews with parents enabled a deeper understanding of these issues.

Parent interview data show waiting lists can act as a disincentive or source of frustration to parents seeking intervention. Waiting lists are a chronic problem in paediatric speech-language pathology services in Australia (O’Callaghan et al., 2005). They are the result of an inadequate number of established positions to meet growing demand, and may result in unrealistic workloads and burnout with SLPs feeling devalued (McLaughlin, Lincoln, & Adamson, 2008). As noted by Grace’s mother in the interviews, high turnover and consequently unfilled positions in the workforce exacerbate the wait for some parents. Furthermore, waiting lists can lead to missing the critical window of time for effective intervention with some impairments (Bishop & Adams, 1990; Nathan et al., 2004b).

Disability legislation in the US, such as the No Child Left Behind Act and the Individuals with Disabilities Education Act (U.S. Department of Education, 2001; 2002), specifically identify children with communication impairments as part of the population with disabilities, as does legislation in the UK, (e.g., The Children Act, and Every Child a Talker; Bercow, 2008). Therefore, children with speech impairment in the USA and UK are entitled to special services, and SLPs are key providers of such services. However, no such overarching legislation exists in Australia. Policies and legislation from Australian state and national government departments for education, health and disability are inconsistent regarding access and provision of services for children with communication impairment (McLeod, Press & Phelan, 2010). Furthermore, in some states of Australia, criteria for accessing special

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support services, including speech-language pathology, are becoming ever more stringent. Consequently, many children with communication impairments are excluded from receiving any speech-language pathology services, or entitled to limited service provision.

Children with speech impairment as their only or major area of need are not accorded priority for public paediatric services and this, coupled with waiting lists in the public sector, may have contributed to the large increase in private practice in Australia over the last two decades. A major Australian SLP workforce study (Speech Pathology Australia, 2002) showed that as many as 45% of members of Speech Pathology Australia were engaged in some level (full time or part-time as primary or secondary job) of private practice. This growth in private practice effectively reduces the pressure and obligation for public sector services to review their service commitments and expansion. However, the cost of private speech-language pathology services can be seen by some families as a barrier to accessing these services. In addition, private services are not available in all locations, with the result being that families have to travel to receive intervention.

The impact of distance to speech-language pathology services and the demands of travel have been discussed in the speech-language pathology literature (O’Callaghan, Wilson & McAllister, 2005; Verdon et al., 2010; Wilson, Lincoln & Onslow, 2002). Interviews with parents in the present study revealed when families had young children and needed to juggle multiple demands and schedules of family members, distance may tip the balance of meeting the needs of all family members against prioritising the needs of one child for speech-language pathology services. This may be especially true if families do not understand the long term social, education, employment and personal development impacts that may arise from un-
treated speech impairment (Law et al., 1998; McCormack et al., 2009). Interview data revealed child and family readiness for intervention was another factor that influenced parents’ decisions to participate in speech-language pathology services. There is clearly a need to advocate for more services and more accessible services for children with speech impairment and their families; however, there is also a need for better public education about communication development, impairments and the impact of impairment.

**Clinical and Policy Implications**

Only one third of parents in this study who had expressed concerns about their child's speech had accessed speech-language pathology services. For many, this was because they were waiting for others (notably their child’s teachers or GP) to confirm their concerns before they began seeking assistance. There is, therefore, a clear need to ensure that those who could “confirm” parents’ concerns about the presence of speech impairment are educated to recognise speech problems, and advise parents on appropriate next steps. As has been noted, not all states and territories of Australia have school-based speech-language pathology services, where teachers would be educated and supported through regular contact with SLPs. Therefore, efforts need to be directed towards training future teachers about communication impairments as part of their qualifications, and to developing and providing appropriate professional development programs and resources for teachers once they are in the workforce. As GPs are also a source of advice and referral for parents, they also need pre-service and continuing professional development to enable them to confirm parents’ concerns.

The study also revealed that parents seek confirmation of their concerns about their child's speech from family members, friends and other parents. A significant public education program is therefore required which would reach these lay groups.
through mass media. This is an area in which the professional association could take a more active lead. Such public education might also enable parents with concerns to be confident in declaring their concerns and seeking speech-language pathology services.

Once parents are aware of the need for speech-language pathology services, the low prioritisation of children with speech impairment proves to be a barrier to accessing services. The data presented in this paper provides a firm basis for more proactive lobbying of the public health services in Australia to re-examine their prioritisation processes and service provision generally for children with speech impairment.

Limitations

A limitation of Study 1 was that the parents were not asked why they did not actively seek services if they had concerns about their child’s speech. This was due to the expectation that parents with expressed concern would seek speech-language pathology services: the large proportion of parents who indicated their children did not need services was unexpected. The factors influencing parents’ decisions to access services were explored in the interviews in Study 2; however, data from the larger group of parents in Study 1 would have been valuable. This is an area for exploration in future studies.

A second limitation was that, while efforts were made to ensure the sample of participants was representative of the population, comparison to data obtained from the Australian Bureau of Statistics (2006 census) revealed some differences. In the current study, there was an over-representation of parents with post-secondary qualifications, as well as an over-representation of monolingual (English-speaking) respondents, relative to those who speak a language other than English. It is possible that parents with lower levels of education may have had less knowledge about
speech impairment and thus, less concern and less motivation to participate. It is possible that parents with English as a second language may not have been confident to participate in the study, given that data was collected through written and verbal means and required a functional level of English. However, children from families with lower education levels, and those whose parents speak a language other than English may have other (or perhaps additional) barriers that impede their ability to access speech-language pathology services. Thus, future research investigating their experiences in accessing speech-language pathology services would be valuable.

The two studies reported in this paper present the experiences and expectations of speech-language pathology services for parents of children who have been identified with concerns about their speech. The findings suggest a large number of children with diagnosed speech impairment are not receiving speech-language pathology services. However, it is possible the number of children with speech impairment requiring speech-language pathology services (but not receiving them) is even greater, given that this study did not include children with unidentified needs. That is, there may have been children who were not identified with concerns by parents/teachers in Study 1, but who would have presented with speech impairment on a formal speech assessment. Future research could investigate the prevalence of unidentified speech impairment, and the factors that influence parent/teacher identification of concern.

**Conclusion**

Speech impairment is prevalent among Australian preschool children, yet results from this research indicate many children at risk of speech impairment are not receiving appropriate speech-language pathology services, primarily because parents feel that their children did not need them. While there are numerous barriers (policy, service
and child/family barriers) to parents’ accessing and engaging in speech-language pathology services, a key issue indicated in this research was parents’ lack of active response to their children’s speech impairment. The present study reveals the need for better education and awareness of speech impairment among teachers, GPs, nurses and the media, as well as improved government policies to enable timely identification of children with speech impairment, and appropriate service provision across Australia.

Acknowledgments

This research was supported by the following sources: Australian Research Council Discovery Grant DP0773978 and the Charles Sturt University Research Institute for Professional Practice, Learning and Education (RIPPLE).
References


Table 1.

*Degree of Parental Worry or Concern Caused by Child’s Physical Health, Emotional Wellbeing, and Communication (n=109)*

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>A little bit</th>
<th>Some bit</th>
<th>Quite a bit</th>
<th>A lot</th>
<th>Valid data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child’s physical health</td>
<td>70 (64.2%)</td>
<td>23 (21.1%)</td>
<td>8 (7.3%)</td>
<td>4 (3.7%)</td>
<td>4</td>
<td>109</td>
</tr>
<tr>
<td>Child’s emotional well-being or happiness or his/her behaviour</td>
<td>54 (50.0%)</td>
<td>25 (23.1%)</td>
<td>20 (18.5%)</td>
<td>4 (3.7%)</td>
<td>5</td>
<td>108</td>
</tr>
<tr>
<td>Child’s communication</td>
<td>19 (17.6%)</td>
<td>57 (52.8%)</td>
<td>20 (18.5%)</td>
<td>8 (7.4%)</td>
<td>4</td>
<td>108</td>
</tr>
</tbody>
</table>
Table 2.

*Relationship Between Parental Level of Concern and Previous Access to Speech-Language Pathology Assessment (n=108)*

<table>
<thead>
<tr>
<th>Level of concern</th>
<th>Total (%)</th>
<th>Previous/ attempted access</th>
<th>No previous access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not concerned</td>
<td>9 (8.3%)</td>
<td>0 (0.0%)</td>
<td>9 (13.4%)</td>
</tr>
<tr>
<td>Sometimes concerned</td>
<td>62 (57.4%)</td>
<td>20 (48.8%)</td>
<td>42 (62.7%)</td>
</tr>
<tr>
<td>Often quite worried</td>
<td>20 (18.5%)</td>
<td>10 (24.4%)</td>
<td>10 (14.9%)</td>
</tr>
<tr>
<td>Always quite worried</td>
<td>8 (7.4%)</td>
<td>4 (9.8%)</td>
<td>4 (6.0%)</td>
</tr>
<tr>
<td>Often very worried</td>
<td>6 (5.6%)</td>
<td>6 (14.6%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Always very worried</td>
<td>3 (2.8%)</td>
<td>1 (2.4%)</td>
<td>2 (3.0%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>108</td>
<td>41</td>
<td>67</td>
</tr>
</tbody>
</table>

Note: Correlation between level of concern and previous access to speech-language pathology services was found to be significant: $\chi^2(5, 108) = 17.92, p < .01$
Table 3.

*Relationship Between Access of Speech-Language Pathology (SLP) Services and PCC on the DEAP.*

<table>
<thead>
<tr>
<th>Parent/teacher concern</th>
<th>Child with speech impairment (PCC on DEAP)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>n= 12</td>
</tr>
<tr>
<td>Parent/teacher concern</td>
<td>resulted in contact with SLP service (attended or had attempted to attend)</td>
</tr>
<tr>
<td></td>
<td>n= 6</td>
</tr>
<tr>
<td></td>
<td>PCC: 88.88 (4.63)</td>
</tr>
</tbody>
</table>

<sup>a</sup> = Significant difference between these groups: F = 4.57, p ≤ .05
### Table 4.

**Parents’ Most Important Sources of Information about Child’s Communication Difficulties**

<table>
<thead>
<tr>
<th>Sources of information</th>
<th>Total (%) (n=103)</th>
<th>Victoria (%) (n=48)</th>
<th>NSW (%) (n=55)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family members not living with you&lt;sup&gt;a&lt;/sup&gt;</td>
<td>58 (56.9%)</td>
<td>31 (64.6%)</td>
<td>27 (50.0%)</td>
</tr>
<tr>
<td>Friends&lt;sup&gt;b&lt;/sup&gt;</td>
<td>48 (46.2%)</td>
<td>20 (40.8%)</td>
<td>28 (50.9%)</td>
</tr>
<tr>
<td>Neighbours</td>
<td>2 (1.9%)</td>
<td>2 (4.2%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Priests/religious leaders</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Other family members living with you (not partner)</td>
<td>7 (6.8%)</td>
<td>4 (8.3%)</td>
<td>3 (5.5%)</td>
</tr>
<tr>
<td><strong>Professional</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers</td>
<td>73 (70.9%)</td>
<td>39 (81.3%)*</td>
<td>34 (61.8%)</td>
</tr>
<tr>
<td>General practitioners</td>
<td>20 (19.4%)</td>
<td>8 (16.7%)</td>
<td>12 (21.8%)</td>
</tr>
<tr>
<td>Speech-language pathologists</td>
<td>32 (31.1%)</td>
<td>12 (25.0%)</td>
<td>20 (36.4%)</td>
</tr>
<tr>
<td>Other professionals</td>
<td>9 (8.7%)</td>
<td>5 (10.4%)</td>
<td>4 (7.3%)</td>
</tr>
<tr>
<td>Government, community or welfare organisations</td>
<td>3 (2.9%)</td>
<td>2 (4.2%)</td>
<td>1 (1.8%)</td>
</tr>
<tr>
<td>Telephone services</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td><strong>Media</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Books, newspapers, magazines</td>
<td>11 (10.7%)</td>
<td>2 (4.2%)*</td>
<td>9 (16.4%)</td>
</tr>
<tr>
<td>Television, videos</td>
<td>3 (2.9%)</td>
<td>0 (0.0%)</td>
<td>3 (5.5%)</td>
</tr>
<tr>
<td>Internet</td>
<td>12 (11.7%)</td>
<td>3 (6.3%)</td>
<td>9 (16.4%)</td>
</tr>
<tr>
<td>Other</td>
<td>4 (3.9%)</td>
<td>2 (4.2%)</td>
<td>2 (3.6%)</td>
</tr>
</tbody>
</table>

*Total responses was 102 (54 from NSW), * Total responses was 104 (49 from Victoria)

*Note: Bold indicates significant relationship. Teachers: \(\chi^2(1, 104) = 4.69, p < .05\); Books, magazines and newspapers: \(\chi^2(1, 104) = 4.00, p < .05\).*
Table 5.

*Community Services Used or Needed by Parents to assist Child with Communication Difficulties (n=101)*

<table>
<thead>
<tr>
<th>Services a</th>
<th>Used</th>
<th>Not used</th>
<th>Needed but could not get</th>
<th>Valid data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Playgroup or parent-child group</td>
<td>49 (50.0%)</td>
<td>48 (49.0%)</td>
<td>1 (1.0%)</td>
<td>98</td>
</tr>
<tr>
<td>Maternal and child health centre / phone help</td>
<td>39 (39.4%)</td>
<td>60 (60.6%)</td>
<td>0 (0.0%)</td>
<td>99</td>
</tr>
<tr>
<td>Maternal and child health nurse visits</td>
<td>37 (37.8%)</td>
<td>61 (62.2%)</td>
<td>0 (0.0%)</td>
<td>98</td>
</tr>
<tr>
<td>Early education services</td>
<td>14 (14.3%)</td>
<td>84 (85.7%)</td>
<td>0 (0.0%)</td>
<td>98</td>
</tr>
<tr>
<td>Speech-language pathology</td>
<td>33 (32.7%)</td>
<td>61 (60.4%)</td>
<td>7 (6.9%)</td>
<td>101</td>
</tr>
<tr>
<td>Hospital emergency department</td>
<td>22 (22.4%)</td>
<td>76 (77.6%)</td>
<td>0 (0.0%)</td>
<td>98</td>
</tr>
<tr>
<td>Hospital outpatients clinic</td>
<td>10 (10.2%)</td>
<td>88 (89.8%)</td>
<td>0 (0.0%)</td>
<td>98</td>
</tr>
<tr>
<td>General practitioners</td>
<td>49 (49.5%)</td>
<td>50 (50.5%)</td>
<td>0 (0.0%)</td>
<td>99</td>
</tr>
<tr>
<td>Guidance counsellor</td>
<td>0 (0.0%)</td>
<td>98 (100.0%)</td>
<td>0 (0.0%)</td>
<td>98</td>
</tr>
<tr>
<td>Other psychiatric or behavioural services</td>
<td>1 (1.0%)</td>
<td>95 (96.9%)</td>
<td>2 (2.0%)</td>
<td>98</td>
</tr>
<tr>
<td>Other medical or dental services</td>
<td>17 (17.5%)</td>
<td>79 (81.4%)</td>
<td>1 (1.0%)</td>
<td>97</td>
</tr>
<tr>
<td>Other child specific services</td>
<td>6 (6.2%)</td>
<td>90 (92.8%)</td>
<td>1 (1.0%)</td>
<td>97</td>
</tr>
</tbody>
</table>

a Requested to tick all the services that apply
Table 6.

*Child and Family Characteristics for Participants in Interviews (n=13)*

<table>
<thead>
<tr>
<th>Child’s pseudonym</th>
<th>Sex</th>
<th>PCC</th>
<th>PCC Standard Score&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Family history of SLD</th>
<th>Location&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Currently receives SLP intervention</th>
<th>Socio-economic status</th>
<th>Mother’s level of education</th>
<th>Father’s level of education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wade</td>
<td>M</td>
<td>42.1%</td>
<td>3</td>
<td>Yes</td>
<td>Large regional</td>
<td>Awaiting intervention</td>
<td>Missing data</td>
<td>Missing data</td>
<td>Missing data</td>
</tr>
<tr>
<td>Grace</td>
<td>F</td>
<td>53.2%</td>
<td>3</td>
<td>Yes</td>
<td>Small regional</td>
<td>Yes</td>
<td>Missing data</td>
<td>University</td>
<td>Trade cert</td>
</tr>
<tr>
<td>Patrick&lt;sup&gt;c&lt;/sup&gt;</td>
<td>M</td>
<td>34.8%</td>
<td>3</td>
<td>Yes</td>
<td>Small regional</td>
<td>Yes</td>
<td>$1000 per week</td>
<td>Trade cert</td>
<td>Trade cert</td>
</tr>
<tr>
<td>Gus</td>
<td>M</td>
<td>47.3%</td>
<td>3</td>
<td>Yes</td>
<td>Metro</td>
<td>Awaiting intervention</td>
<td>Missing data</td>
<td>Trade cert</td>
<td>University</td>
</tr>
<tr>
<td>Ewan</td>
<td>M</td>
<td>38.8%</td>
<td>3</td>
<td>Yes</td>
<td>Metro</td>
<td>Awaiting intervention</td>
<td>Missing data</td>
<td>Trade cert</td>
<td>University</td>
</tr>
<tr>
<td>Kara&lt;sup&gt;d&lt;/sup&gt;</td>
<td>F</td>
<td>78.4%</td>
<td>7</td>
<td>Yes</td>
<td>Metro</td>
<td>No</td>
<td>$2400+ per week</td>
<td>University</td>
<td>Trade cert</td>
</tr>
<tr>
<td>Owen</td>
<td>M</td>
<td>18.6%</td>
<td>3</td>
<td>Yes</td>
<td>Metro</td>
<td>Yes</td>
<td>Missing data</td>
<td>Missing data</td>
<td>Missing data</td>
</tr>
<tr>
<td>Matt</td>
<td>M</td>
<td>50.7%</td>
<td>3</td>
<td>No</td>
<td>Metro</td>
<td>Awaiting intervention</td>
<td>$700 per week</td>
<td>Trade cert</td>
<td>Trade cert</td>
</tr>
<tr>
<td>Zac</td>
<td>M</td>
<td>67.1%</td>
<td>3</td>
<td>No</td>
<td>Metro</td>
<td>No</td>
<td>$2000 per week</td>
<td>University</td>
<td>Trade cert</td>
</tr>
<tr>
<td>Fenn</td>
<td>M</td>
<td>55.8%</td>
<td>3</td>
<td>Yes</td>
<td>Rural</td>
<td>Awaiting intervention</td>
<td>$2400+ per week</td>
<td>University</td>
<td>Trade cert</td>
</tr>
<tr>
<td>Evelyn</td>
<td>F</td>
<td>56.8%</td>
<td>3</td>
<td>No</td>
<td>Metro</td>
<td>No (previously had attended)</td>
<td>Missing data</td>
<td>Missing data</td>
<td>Missing data</td>
</tr>
<tr>
<td>Jamie</td>
<td>M</td>
<td>74.1%</td>
<td>3</td>
<td>No</td>
<td>Metro</td>
<td>No (previously had attended)</td>
<td>$800 per week</td>
<td>University</td>
<td>University</td>
</tr>
<tr>
<td>Lilah</td>
<td>F</td>
<td>54.5%</td>
<td>3</td>
<td>No</td>
<td>Large regional</td>
<td>Yes</td>
<td>Missing data</td>
<td>Missing data</td>
<td>Missing data</td>
</tr>
</tbody>
</table>

Note: PCC: Percentage of Consonants Correct, SLD: Speech and/or language difficulties, SLP: Speech-Language Pathology, Metro: Metropolitan

<sup>a</sup> On the DEAP assessment, the lowest possible standard score is 3. Children receive a standard score of 3 for PCC scores below 69 (4;0 – 4;5 years), 72 (4;6 – 4;11 years), 83 (5;0 – 5;5) or 84 (5;6 – 5;11). Therefore, most children in this sample received the same standard score, despite variable PCC raw scores.

<sup>b</sup> Locations were defined according to population size: rural – under 5,000, small regional – 5-40,000, large regional – 40-100,000, metropolitan – capital city (over 1 million). Locations also varied in level or remoteness and distance to local health services.

<sup>c</sup> Both parents interviewed
Figure 1. *Parents’ Utilisation of Speech-Language Pathology (SLP) Services for their Children with Speech Impairment (Study 1).*

Figure 2. “*Being Aware*” and “*Being Able*”: Parents’ Experiences of Accessing and Engaging in Speech-Language Pathology (SLP) Services (Study 2). Interviews with parents revealed their awareness of their child’s speech impairment led them to attempt to access SLP services; however, some were not able to access services due to factors such as waiting lists, costs, and unavailability of services. For parents who were able to access SLP services, their engagement in services was dependant on being aware of the benefits of intervention and being able to participate. For some families, factors such as child readiness, time and other family commitments prevented or limited their ability to engage.
Figure 1.

Parents identified concern about child’s ability to talk and make speech sounds (n=109)

- Attempted to access SLP services (n=41, 37.6%)
  - Unable to access SLP (n=7, 6.4%)
  - Accessed SLP for assessment (n=34, 31.2%)
    - No SLP intervention (n=5, 4.6%)
    - SLP intervention (n=29, 26.6%)
      - Has received previous SLP intervention (n=14, 13.9%)
      - Currently receiving SLP intervention (n=15, 14.9%)
  - Parents felt SLP “not needed” (n=35, 32.1%)
  - Reasons unknown (n=33, 30.3%)
- Did not attempt to access SLP services (n=68, 62.4%)
Figure 2.

ACCESSING SERVICES

- Not aware
  - No SLP service

- Aware, not able
  - No SLP service (waiting)

- Aware and able
  - Receive SLP service

ENGAGING IN SERVICES

- Not aware
  - Disengage (cease intervention)

- Aware, not able
  - Limited engagement

- Aware and able
  - Successful engagement