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Review Article

Speech and language therapist and interpreter collaboration with the paediatric population: A systematized review

Amanda Ancell[1] and Suzanne C. Hopf*
Speech Pathology Department, School of Allied Health, Exercise and Sport Sciences, Charles Sturt University, Albury, Australia

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Abstract.
BACKGROUND: There is a mismatch between languages spoken by speech and language therapists (SLTs) and their clients. Consequently, SLTs are required to collaborate with interpreters to provide equitable services to multilingual clients.
OBJECTIVE: This systematized review aimed to identify the barriers and facilitators to SLT and interpreter collaboration within the paediatric population.
METHOD: A systematic and comprehensive search of literature was conducted. Selected literature underwent quality assessment and thematic analysis resulting in a narrative synthesis of included literature.
RESULTS: Fifteen research studies were identified to be included in the review. Five themes were identified: (1) Frequency of interpreter and paediatric SLT collaboration; (2) training of SLTs and interpreters for speech therapy paediatric practice; (3) type of interpreters used during speech and language therapy paediatric sessions; (4) paediatric SLTs' confidence when collaborating with interpreters; and, (5) policy influencing SLT and interpreter collaboration during management of paediatric clients.
CONCLUSION: The review revealed limited direct research on the barriers and facilitators to SLT interpreter collaboration in the multilingual paediatric setting. Findings indicate that: (1) many SLTs consider their training in working with interpreters to be inadequate; (2) there is a lack of available professional interpreters and the use of family members as interpreters is common with paediatric clients. Further research is required to explore the specifics of training provided to interpreters and the factors that contribute to the lack of availability of professional interpreters for paediatric clients.

Keywords: Speech-language therapy, interpreters, collaboration, barriers and facilitators

1. Introduction

Speech and language therapists [SLTs] are ethically bound to provide equitable services to people of all cultures and languages (American Speech-Language-Hearing Association [ASHA], 2016; Speech Pathology Australia [SPA], 2020). Yet, a mismatch of SLT and client home language is common in many countries. For example, in Australia the de facto national language of English is the first language of over three-quarters of the more than 25 million population (Australian Bureau of Statistics, 2017); however, Australia is a linguistically diverse nation with another 216 Indigenous and 87 exogenous languages spoken in significant

[1]ORCID ID: 0000-0002-0276-8975
*Corresponding author: Dr. Suzanne Hopf, Speech Pathology Department, School of Allied Health, Exercise and Sport Sciences, Charles Sturt University, Albury, NSW, Australia. E-mail: shopf@csu.edu.au. ORCID ID: 0000-0001-5572-9956.

numbers (Eberhand et al., 2021). In 2016, one fifth of Australian residents spoke a language other than English at home (Australian Bureau of Statistics, 2017). Yet, in Australia the serving speech and language therapy profession is dominated by monolingual English speakers (Verdon et al., 2014). One solution when there is a clinician-client language mismatch is for SLTs to collaborate with interpreters who are specially trained in speech and language therapy interpretation (Multilingual Affairs Committee of the International Association of Communication Sciences and Disorders, 2006; Verdon et al., 2015). Collaboration with interpreters for multilingual clients is considered best-practice (Pretto, 2012; SPA, 2016a). Consequently, proficiency in collaboration with interpreters is often required to obtain professional registration as a SLT (e.g., Australia - SPA, 2016b; UK - Royal College of Speech and Language Therapists [RCSLT], 2021a; US - ASHA, 2017).

An interpreter is an individual who orally translates a message from one language to another. This is distinct from a translator who translates a message from one language to another in written form (Langdon & Saenz, 2016). Successful speech and language therapy collaboration with interpreters involves three widely accepted components: (1) briefing, (2) interaction, and (3) debriefing (Langdon & Saenz, 2016; California Speech-Language-Hearing Association Task Force on Collaborating with Interpreters, 2017; Royal College of Speech and Language Therapists, 2021b; SPA, 2016b; ASHA, n.d.). Briefing involves speaking with the interpreter confidentially about the client and the activities planned for the client's management. In the briefing session clear expectations around the SLT and interpreter roles and requirements are set. Interaction involves aspects of service delivery management that include the client and caregivers. During interaction the interpreter interprets for the SLT, client, and caregivers. For example, during initial appointment set-up, assessment activities, intervention activities, discussion of outcomes, and future service planning (e.g., goal setting, discharge, etc.). Finally, debriefing allows the SLT and interpreter time to discuss specific aspects of the interaction that may need further clarification. In these contexts, interpreters ensure that children and parents with limited English proficiency are adequately informed about all aspects of the child's care and simultaneously that SLTs are informed on all aspects of the child's communication and swallowing function, participation, and well-being (McLeod et al., 2017). In this way interpreters are essential team members for ensuring multilingual paediatric clients receive strengths-based and family-centred speech and language therapy services in all of their languages.

Successful interpretation in a speech and language therapy session requires that both the SLT and interpreter respect and recognise the unique culture, value, role, responsibility, and expertise each bring to the interaction. ASHA (2017), RCSLT (2021b), and SPA (2016a) guidelines for SLTs working with interpreters provide some guidance on role delineation within the interaction. Specifically, while interpreters can give information on linguistic features of the client's language, the SLT is responsible for the actual planning, conducting, and evaluation of assessment and intervention sessions for communication and swallowing issues. A systematic review by Huang et al. (2019) reported the challenges faced by SLTs and interpreters collaborating with adults with acquired communication disorders during these interactions including: a lack of SLT's confidence over accuracy of interpretation; a perceived lack of clarity about roles during sessions resulting in participants speaking at the same time; a lack of funding for interpreters in many services; a lack of access to interpreters at the times required; and, limited or no availability of interpreters for many. To date, there has been no review of the literature on the barriers and facilitators SLTs with paediatric caseloads experience when collaborating with interpreters. Thus, the aim of this review was to investigate how SLTs and interpreters work together and describe the barriers and facilitators to that collaboration when servicing multilingual children.

2. Method

The method of this review is consistent with that of a systematized review as described by Grant and Booth (2009). Specifically, the Authors conducted systematic and comprehensive searching for literature, data extraction and quality assessment, thematic analysis and a narrative synthesis of included literature. Regular consultation and consensus-checking between Author 1 and Author 2 of borderline articles for inclusion, information collected for data extraction, and coding during thematic analysis reduced potential bias in reporting.

2.1. Search strategy

A preliminary search was conducted and no current or underway systematic reviews or scoping reviews

Table 1
Search Strategies Across Specific Health-Related Databases

Database	Rationale for Inclusion	Search terms
CINAHL Plus text	Prime international database for allied health	(speech therap* or speech patholog* or speech language patholog*) OR (MH Speech-language pathology assistants Education) OR (MH speech-language pathology) OR (MH Speech-language pathologists attitudes) OR (MH Rehabilitation, speech and language) OR (MH Speech-language pathologists) OR (MH American Speech-Language-Hearing Association) AND (Interpreter*) OR (MH Interpreter services) OR (MH Communication barriers) AND (child* or paed* or youth* or young*) OR (MH Child health) OR (MH Child)
Proquest	Subject strengths include education, health & medicine, and social sciences.	speech therap* or speech patholog* or speech language patholog* AND child* or paediatric AND interpreter*
INFORMIT	Multidisciplinary database - wider search range to ensure search is comprehensive	speech therap* or speech patholog* or speech language patholog* AND child* or paediatric AND interpreter*
Scopus	Multidisciplinary database Provides articles which have cited the articles showing in the results	speech therap* or speech patholog* or speech language patholog* AND child* or paediatric AND interpreter*

on the topic were identified. Consequently, in consultation with a research librarian a comprehensive search of four databases was made. Table 1 contains key terms searched in Cumulative Index to Nursing and Allied Health Literature (CINAHL) Plus, Proquest, INFORMIT and Scopus. These databases were chosen due to their indexation of articles from both SLT and interpreter fields of practice. When available truncation and inclusion of Boolean operators were used to broaden the search and ensure inclusion of all relevant articles. The initial search resulted in 365 records. After checking for duplicates 266 records remained (see Fig. 1). Forward citation search using Scopus and ancestral searching of the reference lists of all 266 records resulted in the identification of a further 66 records. The titles and abstracts of all 332 records were then screened for relevance to the question. Seventy-seven records were identified for more detailed reading to assess if the inclusion criteria were met. After full-text reading 59 records were excluded for not meeting the inclusion criteria. A further three were excluded as they reported on adult and paediatric caseloads and did not present the data separately. One article (Newbury et al., 2020) was included even though adult and paediatric caseload data was not differentiated because the percentage of SLTs who worked with adults was minimal ($n = 3.0\%$). The remaining 15 articles underwent quality assessment.

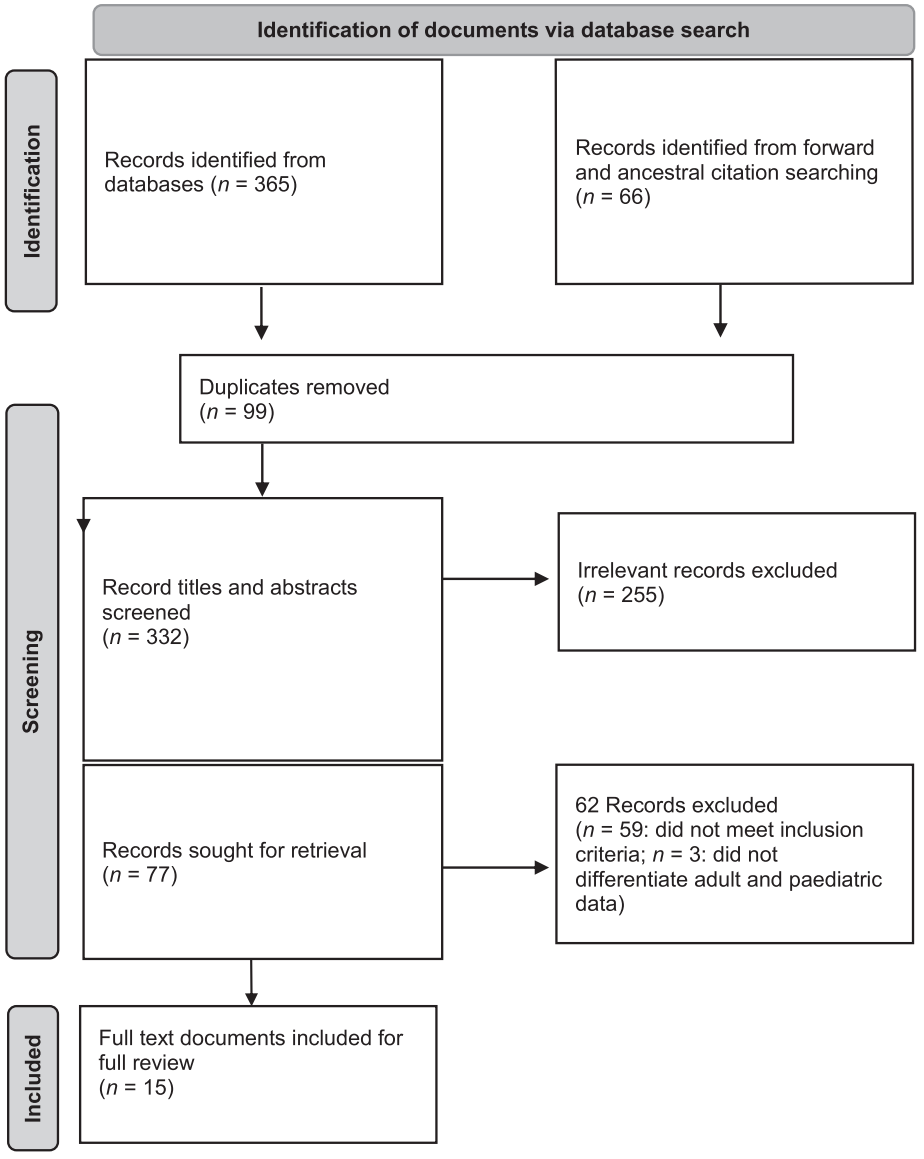
2.2. Inclusion criteria

Included records provided information on factors influencing speech therapy and interpreter collaboration in the multilingual paediatric population. To ensure reliability and authority, only records that were peer reviewed were selected. This unfortunately resulted in exclusion of six theses that addressed barriers and facilitators with a focus on interpreters. Only records published after 1994 were included, as this was the year Roseberry-McKibbin and Eicholtz (1994) published a large-scale study on interpreter use within speech therapy practice which was replicated in 2005 (Roseberry-McKibbin et al., 2005).

Initially, as per Green et al. (2006) all types of records (white and grey literature) were included to not limit by research type; however, this identified a significant number of professional guidelines for use of interpreters during multicultural service provision that did not directly address barriers and facilitators to their use. Consequently, quantitative, qualitative, and quasi experimental studies were selected as the best means to identify facilitators and barriers to SLT and interpreter collaboration.

2.3. Quality appraisal

To ensure the validity and quality of the identified records, each was assessed for quality using the Mixed Methods Appraisal Tool (MMAT; Hong et al., 2018). The MMAT (Hong et al., 2018) details two screening and five design specific questions for five categories of study design; namely, qualitative, quantitative randomized controlled trials, quantitative non-randomised, quantitative descriptive, and mixed methods. MMAT questions comprehensively cover the appropriateness of research design and reliability of findings. After evaluation with the MMAT all 15 records were deemed appropriate for inclusion



Note. PRISMA diagram is adapted from "Preferred Reporting Items for Systematic Reviews and Meta-analyses: The PRISMA Statement" by D. Moher, A. Liberati, J. Tetzlaff and D. Altman, 2009, *PLoS Medicine, 6*(7), p.e100097 (https://doi.org/10.1371/journal.pmed.1000097). CC BY 4.0

Fig. 1. PRISMA Diagram.

in the thematic analysis. See Table 2 for a list of the included articles.

2.4. Data extraction and analysis

The 15 included records reported quantitative, qualitative, or mixed methods studies. An integrated method, useful for diverse methodologies, transformed the quantitative data into textual descriptions related to the research question that were then pooled together with other qualitative findings (Whittemore & Knafl, 2005). The resultant qualitized and qualitative data pool then underwent data extraction which informed thematic coding of data and identification

Table 2
Study Characteristics ($n = 15$)

Authors	Year	Region	No of participants	Design	Summary of relevant content	Amount of study dedicated to interpreters
Caesar & Kohler	2007	USA	130 SLTs	Quantitative survey	Frequency with which school-based SLTs used recommended practices when assessing the language skills of bilingual students	Partial
Guiberson & Atkins	2010	USA	154 SLTs	Quantitative survey	Level of training to use interpreters received, SLT use of professional and non-professional interpreters, and self-rated competence.	Partial
Hammer, Detwiler, Detwiler, Blood & Qualls	2004	USA	213 SLTs	Quantitative survey	SLT level of training; interest in further training; and, SLT confidence in working with interpreters.	Partial
Jordaan	2008	Belgium, Bulgaria, Canada, Denmark, England, Iceland, India, Israel, Malaysia, Malta, South Africa, Sweden, USA	99 SLTs	Quantitative survey	SLT use of professional and non-professional interpreters.	Partial
Maul	2015	USA	9 SLTs	Qualitative semi-structured interviews	SLTs opinion on effectiveness of the interpreting process, and training required for interpreters.	Partial
McLeod & Baker	2014	Australia	218 SLTs	Quantitative survey	Interpreter use and use of non-professional interpreters.	Partial
Mennen & Stansfield	2006	UK [Scotland, England]	2 Service coordinators 18 SLTs	Quantitative survey Census data School population data	SLT level of training to work with interpreters; interpreter use; policy; and, SLT past experiences with interpreters.	Partial
Newbury, Bartoszewicz & Theys	2020	New Zealand	146 SLTs	Quantitative survey	SLT use of interpreters; views on adequacy of training; and, use of non-professional interpreters	Partial
Roseberry-McKibbin & Eicholtz	1994	USA	1,145 SLTs	Quantitative survey	SLT level of training to work with interpreters; interest in further training; and, interpreter use.	Partial
Roseberry-McKibbin, Brice & O'Hanlon	2005	USA	1,736 SLTs	Quantitative survey	SLT level of training to work with interpreters; interest in further training; and, interpreter use.	Partial
Verdon, McLeod & Wong	2015	Brazil, Canada, Hong Kong, Italy, USA	14 sites	Qualitative Ethnographic observation Semi-structured interviews	Frequency of interpreter use; and, common practice for interpreter use.	Partial
Williams & McLeod	2012	Australia	128 SLTs	Mixed method survey	Interpreter use.	Partial
Wright & Sherrard	1994	UK	87 SLTs	Mixed method survey	Use of non-professional interpreters.	Partial

(Continued)

Table 2
(Continued))

Authors	Year	Region	No of participants	Design	Summary of relevant content	Amount of study dedicated to interpreters
Zhang & Crawford	2018	Australia	26 SLTs 1 Clinical Education Support Officer and SLT 2 Allied Health Assistants	Mixed method structured interviews	SLT level of training to use interpreters, interpreter use, policy and training of interpreters.	Partial
Zhang, Crawford, Marshall, Bernard & Walker-Smith	2021	Australia	49 SLTs 30 Interpreters and translators [ITs] 24 Allied Health (excluding SLTs) and Nursing Professionals	Single group pretest-posttest for ITs Quasi-experimental design for SLTs and Allied Health and Nursing Professionals	Survey administered pre and post training to investigate effect of training SLTs to work with interpreters.	Full

Note. [a]SLT = Speech and language therapist.

of common themes. Both deductive and inductive analysis methods were considered for narrative analysis; however, it was decided that deductive analysis (e.g., using identified themes from the adult systematic review by Huang et al., 2019) would potentially limit theme generation given different speech and language therapy practices with adults and children. In contrast, inductive analysis of explicit content of the data allowed the data to determine the most pertinent themes for this population.

3. Results

Fifteen papers from across the world met the inclusion criteria (Australia/New Zealand: $n = 5$; multi-country: $n = 2$; UK: $n = 2$; USA: $n = 6$; see Table 2). Fourteen of these 15 papers asked SLTs about collaboration with interpreters as an embedded element of culturally responsive practice. Only the Zhang et al. (2021) study focussed specifically on SLT and interpreter collaboration and included both groups as participants. Analysis of the 15 articles resulted in five major themes: (1) Frequency of interpreter and paediatric SLT collaboration; (2) training of SLTs and interpreters for speech and language therapy paediatric practice; (3) type of interpreters used during speech and language therapy paediatric sessions; (4) paediatric SLTs' confidence when collaborating with interpreters; and, (5) policy influencing SLT and interpreter collaboration during management of paediatric clients. These themes are discussed below.

3.1. Theme 1: Frequency of interpreter and paediatric SLT collaboration

Eight studies reported a frequency of collaboration between interpreters and paediatric SLTs, and results ranged from 5% to 82% across studies. Three of these studies did not differentiate activities according to assessment or intervention. Results from these studies showed a wide variation in frequency of interpreter use (e.g., Guiberson & Atkins (2012) : less than 60%; Jordaan (2008) : 7%; Mennen & Stansfield (2006) : 72%). The exact percentage of professional interpreter use in the Guiberson and Atkin (2012) study is unclear as a minority of non professional interpreters are included in the 60%.

When comparing data from studies which specified interpreter use in either assessment or intervention higher numbers were noted for interpreter use during assessment. Roseberry-McKibbon and Eicholtz (1994) reported the highest figure for interpreter use in assessment with 82% of SLTs using interpreters to communicate with parents. Three surveys found similar frequency of SLT interpreter collaboration in assessment: McLeod and Baker (2014) found that 37% of the 203 SLT participants in their study used an interpreter; Caesar and Kohler (2007) reported

48% used interpreter support; and, Williams and McLeod's (2012) study showed around 50% of SLTs employed interpreter services. Newbury et al. (2020) reported significantly lower SLT interpreter collaboration with only 7% of SLTs using interpreters for assessment of the previous three paediatric clients and around 40% of SLTs stating they typically used interpreters to service multilingual children. In terms of interpreter use in intervention, low rates were reported by Newbury et al. (2020) and McLeod and Baker (2014) with 3% and 5% respectively. Williams and McLeod (2012) found a higher rate of SLT interpreter collaboration during intervention at 30%.

A challenge when comparing this data was a difference in the methods used to determine frequency of interpreter use. Five of the studies asked SLTs to estimate interpreter use over a given period. In contrast, Jordaan's (2008) study asked SLTs to provide data on individual multilingual paediatric clients. Similarly, the data in Williams and McLeod's (2012) study was based on the last three clients seen. Newbury et al. (2020) investigated both estimated interpreter use and interpreter use for the last three clients seen. The validity of self-report for estimation of interpreter use was identified as an issue by Newbury et al. (2020) who reported a discrepancy between SLTs self-reported general use of interpreters (∼40%) and collaboration with interpreters with their last 3 clients (10%). The authors suggest that triangulation of self-reported measures with workplace records is required to improve the integrity of future studies on this topic. Despite the identified issues, it is evident SLTs and interpreters collaborate regularly in the care of paediatric clients.

3.2. Theme 2: Training of SLTs and interpreters for speech therapy paediatric practice

The available research suggests that many SLTs may lack pre-qualification training in how to effectively collaborate with interpreters despite repeated studies suggesting an increasing trend in multilingual client content in SLTs' training (Roseberry-McKibbin et al., 2005). Three studies revealed a significant proportion of SLTs did not feel their university studies adequately prepared them to work with multilingual children (Newbury et al., 2020; Caesar & Kohler, 2007; Williams & McLeod, 2012). SLTs felt university training was too brief and not sufficiently practical (Newbury et al., 2020). SLTs who completed their university studies before 1996 were reported to have minimal or no training on how to collaborate effectively with interpreters (Mennen & Stansfield, 2006; Roseberry-McKibbin & Eicholtz, 1994). Consistent with this, a significant proportion of SLTs across a number of studies reported not receiving training on collaboration with interpreters either at university or as professional development (Guiberson & Atkins, 2012; Hammer et al., 2004; Zhang et al., 2021). This may partially explain the finding that there was no strong link between how SLTs viewed the effectiveness of training and their use of interpreters (Caesar & Kohler, 2007). However, these findings need to be interpreted with caution as most studies did not detail the content of SLT training, sample sizes ranged widely, and some studies specified training was directly related to interpreter use, while others implied interpreter training was part of more general multilingual training. In summary, the data suggests clinicians entering the profession may feel underprepared to collaborate with interpreters.

Continuing professional development in the workplace may be one solution for a hesitant speech and language therapy workforce. Several studies showed clinicians are interested in further education to collaborate with interpreters (Hammer et al., 2004; Roseberry-McKibbin & Eicholtz, 1994; Roseberry-McKibbin et al., 2005). Additionally, this interest increased substantially from 31% of SLTs in 1991 (Roseberry-McKibbin & Eicholtz, 1994) to 47% in 2001 (Roseberry-McKibbin et al., 2005). SLTs' desire for further training is supported by the researcher's recommendations that further training is necessary (Hammer et al., 2004; Jordaan, 2008; Maul, 2015) and is in keeping with research that SLTs should be adequately trained in the briefing-interacting-debriefing process (Langdon & Quintanar-Sarellana, 2003).

There is some evidence to show SLT training on how to work with interpreters has positive effects. Zhang et al.'s (2021) quasi-experimental study demonstrated SLTs who completed 120 minutes of workplace learning were more knowledgeable and confident working with interpreters and had higher adherence to the recommended practices of briefing, interaction and debriefing. Unfortunately, adherence to best practice had not been consistently maintained across the participants in the two-month post-training follow-up surveys. This suggests other factors are impacting SLTs employing best practice when collaborating with interpreters.

SLTs in Zhang and Crawford's study (2018) commented that the varying quality of interpreters was a challenge. Maul (2015) noted that interpreters may

add information, asking family questions directly and interpret behaviours inaccurately. Numerous authors have identified that, just as SLTs need training on how to collaborate effectively with interpreters, interpreters also need specialized training to work with SLTs (Guiberson & Atkins, 2012; Williams & McLeod, 2012; Wright & Sherrard, 1994). Wright & Sherrard (1994) discussed challenges to training interpreters within the UK District Health Authority. These authors stated that specialist training of interpreters is difficult because interpreters need to be trained to work across different departments to ensure they are cost effective to hire. So, whilst it is recognised that interpretation for speech and language therapy is a skill that requires specialist training, employing organisations may not support this training for financial reasons. Potentially, SLTs require a better understanding of the specialist training requirements of interpreters for specific populations and activities so that clients get the best person for the interpreting job require.

3.3. Theme 3: Type of interpreters used during speech and language therapy paediatric sessions

A common theme across studies was the lack of availability of professional interpreters (Guiberson & Atkins, 2012; Newbury et al., 2020; Roseberry-McKibbin & Eicholtz, 1994; Roseberry-McKibbin et al., 2005; Williams & McLeod, 2012). Best practice advises against the use of family members as interpreters who may negatively impact communication between the family and the SLT (Newbury et al., 2020). Yet reliance on friends and family members as alternative interpreters is common (Wright & Sherrad, 1994). Newbury et al. (2020) and Guiberson and Atkins (2012) reported clinicians used family members around 48% of the time for assessment tasks and 40% for intervention tasks. Similarly, Williams and McLeod (2012) and McLeod and Baker (2014) found family members were the most common type of interpreter used. Successful interpretation requires the interpreter to remain neutral, which is likely to be challenging for parents (Jordaan, 2008). ASHA (n.d.) states family members should only be used in exceptional circumstances, which is at odds with the high rates reported. The reason why clinicians use family members is not directly explored in the studies; however, Wright and Sherrard (1994) suggest it may be due to lack of education on the impact of using an untrained interpreter. Further investigation into this would give a more accurate picture of the barriers to using professional interpreters with children.

It is possible that the frequency with which a language is spoken in a community could influence interpreter availability; however, few studies reported on linguistic diversity and then the findings only consider caseload-, and not community-linguistic diversity. Caesar and Kohler's (2007) analysis reported that the number of multilingual clients on a caseload had no sizeable impact on use of interpreters. By contrast, Mennen and Stansfield's (2006) study of three UK cities suggested a positive link between interpreter use and ratio of caseloads which are multilingual. Specifically, cities with high multilingual caseloads (42% in one city studied) provided interpreting services in all required languages whereas cities with low multilingual caseloads had more limited interpreter services (Mennen & Stansfield, 2006). This is consistent with the relatively low use of family members as interpreters found in Guiberson and Atkins's (2012) study. In this study, up to 35% of students on caseloads spoke English as an additional language and family members were used for interpretation only 14% of the time. Future studies reporting caseload and community linguistic diversity are required to determine if there is a correlation between linguistic diversity and SLTs' use of interpreters.

3.4. Theme 4: Paediatric SLTs' confidence when collaborating with interpreters

Clinicians' past experiences with interpreters and linguistic profiles (monolingual or multilingual) may influence their confidence with interpreter use. Mennen and Stansfield (2006) suggested negative past experiences resulted in avoidance of interpreter services. Two studies investigating SLT's confidence levels of using interpreters had conflicting results. Guiberson and Atkins (2012) found while 51% were confident assessing multilingual children, only 25% felt confident collaborating with an interpreter for assessment of multilingual children. In contrast, Hammer et al. (2004) reported higher levels of confidence with the majority of clinicians rating their confidence as "somewhat confident" to "confident". Another study outside the scope of this review found being multilingual resulted in slightly higher competence in collaborating with an interpreter (Kritikos, 2003). Whilst 11 out of the 15 articles in this review provided demographic information on SLT linguis-

tic profile, it was not investigated as a factor that may influence confidence working with interpreters. Future research should consider whether linguistic profile influences SLT confidence in collaborating with an interpreter.

3.5. Theme 5: Policy influencing SLT and interpreter collaboration during management of paediatric clients

The impact of policy on use of interpreters has not been extensively covered: only three papers noted this issue (Caesar & Kohler, 2007; Mennen & Stansfield, 2006; Zhang & Crawford, 2018). Zhang and Crawford (2018) discussed workplace policy that identifies best practice methods for SLTs working with culturally and linguistically diverse children may be connected to interpreter use. In a study of three UK cities, the two cities with operational policies for working with multilingual children offered interpreting services in more languages than in the city without such a policy (Mennen & Stansfield, 2006). Similarly, Caesar & Kohler (2007) identified lack of clear policy on interpreter use as a reason for why schools may underestimate the need for interpreters.

4. Conclusions and future research

This review investigated the barriers and facilitators to SLT and interpreter collaboration when servicing multilingual children. Similar to Huang et al.'s (2019) investigation of professional interpreter use by SLTs for adult clients, this review did not reveal any clear recommendations on enhancing SLT and interpreter collaboration in the context of multilingual children. Potential barriers to collaboration identified included: a lack of specific training for SLTs on how to collaborate with interpreters most effectively, a reported reliance on family members as interpreters (possibly due to interpreter access issues), a lack of SLT confidence working with interpreters (possibly due to lack of training), and a lack of policy guidance on when and how to most effectively work with interpreters.

Findings of this review are only preliminary in nature. The limited data set and variability in study methods and reporting variables made it difficult to draw strong conclusions about why SLTs do, or do not, collaborate with interpreters, and under which circumstances. Only one study was designed to specifically evaluate how SLTs and interpreters can best work together in response to a training model (Zhang et al., 2021); the remainder of the studies explored SLT interpreter collaboration as one component of a larger study on multicultural service provision. Only two studies reported had a reasonable sample size (Roseberry-McKibbin & Eicholtz, 1994; Roseberry-McKibbin et al., 2005) and purposive sampling methods may have limited generalisation of findings in others (e.g., McLeod & Baker (2014) and Williams & McLeod (2012) recruited SLT participants attending seminars; Jordaan (2008) and Verdon et al. (2015) recruited participants considered 'experts' in the multilingual field). Unfortunately, whilst SLTs were reported to work with children in a range of settings (e.g., schools, private practice, hospitals and community health) the data provided did not allow for analysis of the effect of these settings on interpreter use. Similarly, the purposes for which SLTs and interpreters collaborate (e.g., for assessment, intervention, or to communicate with parents) could also not be elucidated from all of the data. Finally, despite the fact communication with parents is essential to family centred practice, there was an absence of data on caregivers' feelings about speech therapy and interpreter collaboration.

The current literature highlighted training needs and interpreter availability issues as areas that would benefit from further research. The review identified a lack of SLT higher education and workplace training for collaborating with interpreters. It is recommended that future research looks at the content and delivery of training for both SLTs and interpreters, and how this training may influence stakeholder confidence in and uptake of interpreter services. Whilst further training is desired by SLT and recommended by researchers to build confidence, recommendations for how to design effective training also need further research in light of the lack of maintenance of skills identified in Zhang et al. (2021). Similar to Huang et al. (2019), this review identified a lack of availability of professional interpreters and the use of family members as alternatives. Previous studies note that the use of family members may compromise the quality of interpretation, as they are less likely to be trained in ethics and able to remain neutral (ASHA, n.d.; Jordaan, 2008; Langdon & Saenz, 2016). Yet, the individual, community and organisational factors that may lead to a lack of trained interpreter availability and reliance on family members as alternatives are poorly understood. One possible explanation may be the lack of literature detailing supportive policies in the workplace. Clear policies identifying when inter-

preters must be used in the workplace could decrease reliance on family members and increase SLT and interpreter collaboration. Understanding more about why SLTs are unable to access professional interpreters is a first step in finding ways to address such issues and ensure multilingual children get the services they need and deserve.

Clearer identification of the facilitators and barriers to speech and language therapy-interpreter collaboration will help deepen understanding of the actions required to increase interpreter use and ultimately provide an ethical and equitable service to multilingual children. Future studies are needed that investigate the influence of personal and environmental factors on SLT practice with multilingual clients. These studies will need to include all stakeholders in the discussion and explore interpreter use in more diverse geographical contexts, with different languages, and across multiple workplace settings.

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Author contributions

Amanda Ancell: Conceptualization, Methodology, Writing – Original draft preparation and editing.

Suzanne C. Hopf: Conceptualization, Writing – Reviewing and editing, Supervision.

Conflict of interest

The authors have no conflict of interest to report.

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