Educational Audiology: perspectives of multidisciplinary working

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Abbreviations

AHCS	Academy for Healthcare Science
BAA	British Academy of Audiologists
BAEA	British Association of Educational Audiologists
BATOD	British Association of Teachers of Deaf Children and Young People
BCIG	British Cochlear Implant Group
CYP	Children and Young People
DCYP	Deaf Children and Young People
DfE	Department for Education
EHCP	Education, Health, and Care Plan
IPE	Interprofessional Education
IPEC	Interprofessional Education Collaborative
NatSIP	National Sensory Impairment Partnership
NDCS	National Deaf Children's Society
NHS	National Health Service
MDT	Multidisciplinary team
MDW	Multidisciplinary working
RCSLT	Royal College of Speech and Language Therapists
SEND	Special Educational Needs and Disabilities
SLT	Speech and Language Therapist
QToD	Qualified Teacher of Deaf Children and Young People

Abstract

The concept of multidisciplinary working is embedded within both health and education as a means to enhance the quality of services provided and to enhance outcomes for service users. Educational Audiologists form a crucial bridge between these two fields providing specialist knowledge from both, with the aim of improving outcomes for deaf* children and young people and their families.

Objectives: to explore the current practices, perception and challenges of Educational Audiologists towards multidisciplinary working with the aim of identifying strategies for best practice.

Methods: A small-scale, person-centred, interpretivist approach provided the framework that enabled an understanding of perspectives and subjective experiences of participants. Data was collected from ten participants, through an online survey with five, follow up semi-structured interviews.

Analysis: Quantitative data from online surveys was compared through frequency distribution. Qualitative data from both online surveys and semi-structured interviews were analysed using a thematic, six-phase approach (Braun & Clarke, 2006) and coded using NVivo 14.

Results: Educational Audiologists value multidisciplinary working as part of their everyday working practices. It is enhanced by strong relationships and collaboration and supported by effective communication. It provides enhanced, comprehensive holistic care for deaf children and young people and their families. Educational Audiologists feel higher levels of legitimacy within a multidisciplinary team due to their additional training but would value greater role recognition.

Conclusion: Early interprofessional education and training with the wider multidisciplinary team will further enhance outcomes for deaf children and young people and their families.

*The term ‘deaf’ has been used to represent all levels of hearing loss from mild to profound. It is also used to include those who identify culturally as Deaf.

1.0 Introduction

In recent years, the fields of both education and audiology have witnessed a growing emphasis on multidisciplinary working as a means to enhance the quality of services provided and to enhance outcomes for service users. In education, multidisciplinary working (MDW) is embedded within the Special Educational Needs and Disability Code of Practice (Department for Education & Department for Health, 2015) and is being developed further through the concept of embedding multidisciplinary teams (MDT) within alternative provisions (HM Government, 2022). In clinical audiology, the 'Long Term Plan' (Health Education England, 2021) similarly reinforces this core concept by identifying the need for a greater level of effective multidisciplinary working to bridge workforce gaps.

Educational Audiologists have a role that bridges both health and education (Webster, 2016; Rosenberg, 2017) by providing specialist knowledge that combines the two with the aim of improving outcomes for deaf children and young people (DCYP) and their families. Educational Audiologists, as a core member of the MDT (Educational Audiology Association, 2015; Rosenberg, 2017) must ensure that they embrace person-centred MDW (Davis & Meltzer, 2007; Cheminais, 2009; Health Education England, 2021); however, whilst there is a wide literature base that establishes some of the advantages and challenges of MDW for a range of professions (Cameron & Lart, 2003; Doyle, 2008; Health Education England, 2021, Sandar, 2022), there is limited research on the current MDW practices and challenges for Educational Audiologists. As such, this small-scale research project is both timely and relevant. It aimed to explore these concepts by examining the current practices and perceptions of MDW as well as the challenges they faced. In doing so, it was intended to identify strategies and best practice in MDW for Educational Audiologists to ensure enhanced outcomes for DCYP and their families.

2.0 Literature Review

Educational Audiologists are critical in supporting DCYP and their families. They provide specialist knowledge that combines awareness of both education and health to provide a bridge between the two with the aim of improving outcomes (Webster, 2016; Rosenberg, 2017), moreover, they are a member of the school MDT (DeConde & Seaton, 2019).

2.1 The role of the Educational Audiologist

Typically, an Educational Audiologist in the UK is either an experienced Qualified Teacher of Deaf Children and Young People (QToD), or a qualified Clinical Audiologist who has undertaken additional training in educational audiology (BAEA, n.d). Despite this difference in training route, they are typically employed by either a local authority educational service or a specialist setting for DCYP rather than within a health role (MESH Guides, n.d.). Across the UK, the role of the Educational Audiologist is wide and varied (Ash, 2021); however, they are focussed on a common goal: to support DCYP to achieve their full 'potential in terms of developing their functional use of hearing, and their speech, language and communication skills' (Webster 2016:1). Rashid et al.'s (2022) US based study determined six main themes pertaining to the role of the Educational Audiologist: collaboration; (re)habilitation; supporting staff; audiological assessments; managing hearing instruments and monitoring classroom acoustics. Whilst it is noted that the training routes and job roles differ significantly between the USA and the UK, the core skills, and standards across the two nations do align (Educational Audiology Association, 2015; Webster, 2016). The British Association of Educational Audiologists (BAEA) (the professional association for Educational Audiologists in the UK) provides the professional skills and standards for Educational Audiologists and categorises them as: child and family support; educational assessment; training to educational and health services; educational amplification systems; audiological testing; managing hearing instruments [sic]; and contributing to the MDT (Webster, 2016).

2.2 Defining multidisciplinary working

It is important to recognise that there are many definitions of MDW (e.g. inter-agency, integrated, multi-professional, joint, partnership). These terms vary throughout the literature; sometimes they have the same meaning while at other times their meanings are more nuanced and mean different things. Therefore, caution must be exercised when making direct comparisons.

In this research, the term ‘multidisciplinary working’ is being used to describe professionals from various disciplines collaborating to achieve a common goal, primarily how health and education work together through both collaboration and teamwork.

2.3 Legislative background of multidisciplinary working in UK education

In a UK educational setting, MDW is an approach that refers to the collaboration of professionals from a diverse range of fields in order to address the needs of the learners. It is shaped by legislation and policy that mandates collaboration amongst professionals. Both UK and international legislation lay the legal groundwork that dictates a requirement for professionals from health, education, and social care to work together as a team around the family as a way of improving outcomes.

The Salamanca Statement (UNESCO, 1994) was a landmark moment for inclusive education globally and marked a shift towards the rights of children and young people with disabilities being educated alongside their peers. It highlighted the concept of partnership, with parents and educators being ‘equal partners’ (p.38). This was expanded to raise the concept of ‘various partners in the educational process’ (p.24) as well as noting the importance of holistic development through the inclusion of community partners.

In England, the notion of MDW was strengthened by the Special Educational Needs and Disabilities (SEND) Act (2001). However, a critical turning point for integrated, family centred, MDW and early intervention, was the 2003 green paper, Every Child Matters (Department for Education & Skills, 2003). This was followed by the Children and Families Act (2014) which underpins the SEND Code of Practice (Department for Education & Department for Health, 2015). This landmark legislation mandated local authorities to ensure that

adequate resources and support are available for the education of children and young people with SEND, which includes deaf learners. Underpinning the code is the need for collaboration between education, health, and social care professionals to ensure tailored support plans that meet the needs of the learner; collaborative working is required to ensure effective service delivery.

The concept of MDW was further developed in the 2022 SEND review (HM Government, 2022). The concept of embedding multidisciplinary teams within alternative provisions is discussed, in order to determine the value this may bring to wrap-around support for vulnerable children and young people. Despite this potentially revolutionary change to MDW within alternative education in England, the review (ibid.) does discuss the challenges of having to engage with multiple services whilst also highlighting the need for multidisciplinary and not multiservice working, working *together* rather than *alongside* other services; challenges that are familiar to Educational Audiologists who work in a multitude of settings and so are required to have knowledge and skills to work with DCYP and their families as well as with a range of professionals in a multitude of arenas (Florence, 2019).

2.4 Educational Audiologists and multidisciplinary working

Educational Audiologists are by definition a member of the MDT (Educational Audiology Association, 2015; Rosenberg, 2017). Furthermore, Rashid et al. (2022) note the ever evolving and multifaceted responsibilities of the role of the Educational Audiologist and suggest that the dynamic nature of the role calls for 'strong collaboration […] in order to deliver optimum (evidence-based) services' (p.3) to DCYP.

In the United Kingdom, this expectation is set out clearly in the BAEA's 'The Role of the Educational Audiologist' (Webster, 2016); one of the seven core competencies is solely related to 'Professional contribution to the multidisciplinary team' (p.17). Despite this, there is a lack of literature focussed on this topic that relates specifically to Educational Audiologists.

In addition, the Academy for Healthcare Science (AHCS), the professional body for Educational Audiologists state that registered professionals should be engaging in MDW as set out in Professional Standard 12 (Academy for

Healthcare Science, 2023). However, registration to this professional body is voluntary and as such, adherence to this professional requirement is not monitored for unregistered Educational Audiologists. When considered alongside the lack of formal status for the role of the Educational Audiologist, effective MDW between health and education services may be hindered (Ash, 2021).

2.5 Person-centred models of multidisciplinary working in education

The concept of family-centred MDW has been embedded within recent models of working as a way of adding 'collaborative advantage' (Coleman, 2006:10) to learners. For example, Coleman's (2006) research emphasises a move away from hierarchical models of working, towards inclusive approaches that focus on strong relationships, fostering engagement and shared values and whilst it should be noted that the research considers collaborative leadership within a school setting in relation to the extended school day, it provides some important insights to the concept of the Educational Audiologist adding value (Webster & Keene, 2018).

This concept of developing strong collaborative practices between professionals and families was embedded in the education sector through the Early Support Materials (Davis & Meltzer, 2007). Their Family Partnership Model highlighted the importance of interpersonal skills (effective communication, empathy and relationship building), as well as technical expertise, to encourage engagement through constructive and collaborative practices, with each party working towards achieving meaningful outcomes for children and young people and their families.

Cheminais (2009) developed the Family Partnership Model further by providing a framework to support the understanding of various levels of collaboration. The 'five degrees of MDW' (p.22) (co-existence, co-operation, co-ordination, collaboration, co-ownership) framework explores different levels of co-operation, from an initial stage of informal cooperation to fully integrated partnerships with each degree representing a distinct approach to collaboration. Whilst it important to recognise that this research focuses on the relationships between *families* and *educational settings* rather than

Educational Audiologists, it is, however, critical to the ways in which Educational Audiologists work; the framework underscores the significance of progressing through the five degrees, in a *pro-active* manner, with the aim of enhancing the effectiveness of multidisciplinary working in education.

2.6 Person-centred multidisciplinary working in clinical audiology

Multidisciplinary working for Audiologists in England sits within the general framework of legislation and healthcare policies of the National Health Service (NHS) with policies and frameworks being regularly reviewed and revised.

The Five Years Forwards View Plan (NHS, 2014) called for a greater integration of care services to secure better outcomes and greater patient satisfaction. This was developed further by Health Education England (2017) which laid out the knowledge and skills required for a person-centred approach; central to this was recognition that communication and relationship building are the central tenet of person-centred, multidisciplinary care, thus echoing research within the field of education (Coleman, 2006; Davis & Meltzer, 2007; Cheminais, 2009) as well as the significant body of work on person-centred care from the Ida institute (Ida institute, n.d.). The 2021 ‘Long Term Plan’ (Health Education England, 2021) reinforced these core concepts by identifying the need for a greater level of effective multidisciplinary working to bridge workforce gaps, but also to ‘draw [..] on a broader range of skills and competencies’ (p.4). The ‘plan’ recognises the importance of working towards a common goal as well as noting that professionals may come from beyond direct care roles. However, there are no clear links made, beyond those of service users and carers to professionals external to health care and this is where Educational Audiologists are well placed to bridge this gap.

Of key importance to Paediatric Audiologists, however, is the Children and Families Act (2014). By mandating that services for children with SEND are overarching and coordinated, it facilitates the requirements for Education, Health, and Care Plans (EHCPs). These require an integrated approach between health, educators and families and therefore promote the requirement of MDW between health and education. However, despite this requirement for MDW there is a dearth of literature relating to paediatric

audiology teams and their collaborative working practices with education services. One exception is Page et al.'s (2018) USA based study into service provision for DCYP at pre-school and elementary ages. It identified the value of Speech and Language Therapists (SLTs) working collaboratively with Paediatric Audiologists as well as Educational Audiologists. They proposed that collaboration positively impacts outcomes and that increased interprofessional education is required between Audiologists, Teachers and Speech and Language Therapists. Further to this, they suggested that additional research was required to determine the communication barriers that exist between these professionals thus echoing some of the challenges that are identified in developing effective multidisciplinary working practices. Additionally, the CHerUB project (NDCS & Medical Research Council, 2021), a three-phase research project investigating hearing aid use in babies with the aim of developing a family support programme to ensure early, consistent hearing aid use is currently in phase two. Having completed their systematic review of barriers to consistent hearing aid use they are now interviewing parents, QToDs, Educational Audiologists and Clinical Audiologists. As such, they are demonstrating a holistic, comprehensive approach to MDW to achieve maximum outcomes for DCYP and their families.

2.7 Developing effective multidisciplinary working practices

MDW is not without its challenges. Different training, goals, and priorities as well as different methods of working and working in different buildings are commonly identified as barriers preventing the realisation of the benefits of multidisciplinary working (Cameron & Lart, 2003; Doyle, 2008; Health Education England, 2021, Sandar, 2022). Conversely, The World Health Organization's (2010) Framework for Action on Interprofessional Education and Collaborative Practice does not focus of challenges and barriers to MDW but suggests that interprofessional education, supports the development of a collaborative, practice ready work force, which therefore leads to effective MDW, and improved health outcomes.

The Interprofessional Education Collaborative (IPEC) (2016) develop this further, noting an interprofessional learning continuum that is initiated pre-

practice and is expected to continue, to ensure effective MDW. They highlight four domains of competency that were further developed to include teams and teamwork, values and ethics, roles and responsibilities and communication (IPEC, 2023) set within a patient and family centred model (Figure 1).

Figure 1: Core competencies for interprofessional collaborative practice (IPEC, 2023:15)

Whilst acknowledging the work of the World Health Organization's (2010) and IPEC (2016; 2023) focus solely on health professionals, combined with the lack of clarity regarding improved clinical outcomes (Cox et al., 2016) the core concepts can be applied to the bridging role of the Educational Audiologists and the many professionals they work with.

2.7.1 Developing effective multidisciplinary working in education

In keeping with family-centred models of MDW (Davis & Meltzer, 2007; Cheminais, 2009), Mas et al.'s (2019) Spanish-based research focused on children with diverse disabilities, advocated for the integration of capacity-building practices in professional development, asserting that this approach empowers practitioners to deliver effective family-centred care. This corresponds with the core tenet of both the Educational Audiologist and a QToD role (Webster, 2016; Department for Education, 2023).

Similarly, the Education and Training Inspectorate (2021) of Northern Ireland noted the value that families placed on multidisciplinary support, combined with parental training. In doing so they embraced the family as a crucial member of the MDT through family centred practices. This research is of particular note when considered alongside the 2022, SEND review (HM Government, 2022) as it examined multidisciplinary support across 39 special schools. The researchers concluded that whist effective multidisciplinary provision was challenged by a lack of space, alongside differences in accessibility of provision; all schools involved 'highlighted the value of working collaboratively with multidisciplinary agencies, and how essential this is to meeting the holistic needs of children and young people' (Education and Training Inspectorate, 2021:2). Additionally, McClain, Palmgren & Lijedahl's, (2024) research focussing on improving outcomes through the reconceptualization of schools as a hub through which education, health, family and community services are delivered also advocate for both interprofessional collaboration as a central component to potential success.

Smythe's (2025) research builds on this by specifically investigating how Teachers collaborated with others (as well as the perceived advantages and difficulties) and whilst the research is not focussed on deaf education it is particularly pertinent to Educational Audiologists who visit learners in a wide variety of settings and are required to work with school professionals across those settings. Smythe (2025) reported that within mainstream settings, Teachers' collaboration was primarily focussed within the school (i.e. the SEND coordinator) rather than with external professionals. Conversely, within specialist settings, where class sizes are smaller, there were different expectations of collaboration and staff were highly collaborative; they regularly engage in collaborative practices in order to adapt and meet the needs of their learners. Importantly, a key finding in this research was that Teachers' attitudes and practices were fundamental to successful inclusive and multidisciplinary working.

By contrast, the recently published Initial Teacher Training and Early Career Framework (Department for Education, 2024) for implementation in September 2025, makes no mention of multidisciplinary working, with the

exception of Standard 8 (Professional behaviours) which requires Teachers to 'build effective relationships with parents, carers and families' (p.26) as a means of supporting motivation, behaviour and academic success.

2.7.2 Developing effective multidisciplinary working in deaf education

In deaf education, MDW started to take centre stage in the early 2000s with the implementation of Children's Hearing Services Groups. These groups meet three or four times per annum and bring together representatives from health, education, social care and DCYP and their families. The National Deaf Children's Society (NDCS) (n.d.a) report 136 groups across the UK that meet to plan and set priorities for their local area.

However, it wasn't until 2013 that the Consensus Statement for Best Practices in Early Intervention (Moeller et al., 2013) provided a guiding framework for deaf education which included MDW. The statement, agreed upon by an international panel set out eight best practice principles. Of note here are 'Principle 2', a foundation Principle, which sets out the necessity of balanced relationships between professionals and families and 'Principle 8', a structuring Principle, which focuses on collaborative teamwork. Whilst the statement focuses on early intervention, it is this that lays the cornerstone of good practice in MDW that is specific to deaf education.

British Association of Teachers of Deaf Children and Young People (BATOD) and The Royal College of Speech and Language Therapists (RCSLT) (2019) sought to develop the concept of collaborative teamwork and jointly published a best practice guidance. The aim of the document was to improve outcomes for DCYP through effective collaboration of QToDs and SLTs. They reported that: time, service and workforce capacity, physical location, differing terminology, sharing and storing data and a lack of understanding of expertise and skill set were the biggest challenges to collaborative working. As such they set out four core principles: establishing roles and responsibilities, promoting good practice, understanding and acknowledging service issues and working with others as being essential to effective collaborative working. It should be noted that these four core principles reflect the four domains set out by IPEC (2016; 2023). However, despite the wider evidence base relating

to other professions, they do not note the importance of interprofessional education, due to the limited research base between these two professional fields (Secora & Shahan, 2023). Similarly, Szarkowski et al.'s (2024) development and expansion of Moeller et al.'s (2013) earlier work recommended collaborative practices of: communication, sharing information, resources and skills, joint planning, compromise, modelling and acknowledgment as playing a vital role in collaborative practices whilst at the same time recognising the family as playing a *vital* role in the team.

This is supported by the Department for Education (DfE) (2023) who require course providers delivering the QToD qualification to 'Develop participants' skills in advising, supporting, coaching and collaborating with colleagues and families. Working in partnership with multi-agency teams to meet the needs of children and young people who are deaf' (p.12). It is also important to note that MDW is expected by all professional bodies (e.g. National Sensory Impairment Partnership (NatSIP), BAEA, NDCS, British Academy of Audiologists (BAA)) and reference is made to these expectations. For example, NDCS (2020) note multiagency working as Quality Standard 17 in their Quality Standards for Resource provisions for deaf children and young people in mainstream schools and BATOD and the British Cochlear Implant Group (BCIG) has a jointly commissioned 'Guidelines for Good Practice' (2014) for implant centre QToDs which clearly expresses the importance of MDW. Similarly, the Curriculum Guidance Document for Audiologists (British Academy of Audiologists, 2023) states that Audiologists should be able to 'produce agreed management plans in the context of multidisciplinary provision and liaising with individuals' relatives/carers as appropriate' (p.8). This is supported by a knowledge, skills and understanding statement that expects Audiologists to be aware of 'professional roles and boundaries in education, healthcare, and social services contexts' (p.10). However, there is no guidance from either BATOD, BAEA or BAA for ***best practice*** between either QToDs or Educational Audiologists on effective collaborative working with Clinical Audiologists or other professionals.

2.8 Justification for the study

By shedding light on the benefits and challenges of multidisciplinary working in educational audiology, this research aims to contribute to the development of more effective and collaborative approaches to supporting DCYP. The findings of this study have the potential to inform policy and practice in the field of educational audiology.

2.9 Research aims:

The research will aim to

1. Investigate the current practices and challenges of multidisciplinary working in educational audiology.

2. Explore the perceptions of Educational Audiologists regarding multidisciplinary approaches to supporting DCYP.

3. Identify best practices and strategies for enhancing multidisciplinary working in educational audiology.

3.0 Methodology

3.1 Introduction

Educational Audiologists work in diverse roles (Ash, 2021) but are unified by the core notion of forming a bridge between health and education through multidisciplinary team working (Rosenberg, 2017). It was this principle that provided a framework from which to develop a small-scale research project as it was used to guide and inform the research questions. A mixed-methods research approach was developed; this approach enables a holistic, data-rich perspective that can cross-verify findings and support the validity of the results.

3.2 Research questions

The literature review demonstrates that a body of research literature exists on MDW for adjunct professions such as QToDs and SLT or medical teams working within the health service; however, there is a lack of research and evidence relating to multidisciplinary working within the role of the Educational Audiologist despite it being a core tenet of the role. As such, this research aims to add to the literature by investigating the following questions:

1) What are the current practices and challenges of multidisciplinary working in educational audiology?

2) What are the perceptions of educational Audiologists regarding the multidisciplinary approaches in supporting DCYP?

3) What are the best practices and strategies for enhancing multidisciplinary working in educational audiology?

3.3 Research methodology

A person-centred, interpretivist approach provided a framework from which to develop this small-scale research project. This approach emphasises the understanding of perspectives and subjective experiences and so values the context and meaning that individuals attach to their experiences. As such, it enabled participants' voices to remain at the forefront throughout the research

process enabling an authentic, in-depth understanding and contextual insight (Thomas, 2017) through the collection of (primarily) subjective, narrative data.

Of course, it is important to acknowledge that interpretivism may be critiqued for ignoring the political, ideological, and social reality that embodies both the research and participants (Pervin & Mokhtar, 2022), and this is particularly pertinent to this research subject: deaf education and educational audiology are fully embedded within the political, social, and educational rhetoric of their relevant nation. However, other research paradigms were not considered suitable. Positivism and post-positivism emphasise objectivity, which is well-suited to studies in the sciences that employ quantitative methods for data collection and analysis (Ryan, 2018; Denscombe, 2021; Bell, 2024; Throne, 2024). However, these approaches would not provide access to the participants' beliefs and lived experiences. Similarly, pragmatism and transformativism were both considered to be inappropriate research philosophies. Pragmatism is primarily concerned with finding solutions to practical problems (Given, 2008), whilst transformativism aims to change a situation through the integration of a political agenda (Denscombe, 2021). An action research approach was considered but deemed unsuitable; this project was designed to determine opinions on pertinent questions rather than solve a problem (Thomas, 2017). Despite this, it must be acknowledged that action research does enable practical relevance, combined with a participatory approach (Styhre & Sundgren, 2005) and as such may be suitable for any onward research resulting from this project; studies where more time is available and that are designed towards continuous improvement.

3.4 Research design

Within an interpretivist approach, a mixed-methods design was developed to address the multifaceted nature of the research questions. This use of methodological triangulation, using both an on-line survey followed by in-depth interviews, leveraged the strengths of both methods (Denscombe, 2021), whilst simultaneously enhancing the reliability of results and limiting bias (Regnault, Willgoss & Barbic, 2018) thereby providing a higher level of validity to a small-scale project. Of course, while a mixed-methods design

may be more resource-intensive at both the research and analysis stages, it yielded rich data.

3.4.1 Online survey

The primary data collection phase involved gathering both qualitative and quantitative data through an online survey (Appendix IV), using JISC Online Survey, as this facilitated a geographically wide-reaching and broad overview of current practices and challenges across the field (Research Question 1). By using a survey, I was able to control limited variables (Turner, Cardinal & Burton, 2017) such as question order, with the aim of ensuring that data collected was reliable and consistent, allowing for more trustworthy conclusions.

JISC Online Survey, is a web-based survey, compliant with the requirements of the University of Hertfordshire ethics committee and had the advantage of being easily accessible to Educational Audiologists nationwide. It was preferable to paper-based or in-person surveys, which could have led to a lower response rate and a reduced reach (Deutskens et al., 2004). Furthermore, the questionnaire was designed to take no more than 30 minutes to complete, a decision made to support the collection of meaningful data whilst considering the potential for increased 'drop-off' rates and unanswered questions. It is important to note here that the survey length was slightly longer than the 23.5 - 28.7 mean maximal length suggested by Revilla & Höhne (2020) for online surveys; however, this was weighted against gathering data that was meaningful. In addition, the option to 'finish later' was applied to the survey, as a way of supporting participants to have freedom and flexibility when completing the survey (Kılınç & Fırat, 2017). Participants also had the option to participate anonymously. This was important as it allowed participants to express their thoughts, feelings, and experiences more freely (Murdoch, 2014) and, as such, will reduce bias. One question used a Likert scale to ascertain how successful participants felt MDW is in achieving best outcomes for DCYP and their families. It is important to note here that whilst this type of question allows for a consistent format for responses, there is a central tendency bias to such question formats (Sullivan & Artino, 2013).

3.4.2 Semi-structured interviews

Building on the insights gained from the online survey, the second phase involved semi-structured interviews with five Educational Audiologists, to delve deeper into the identified themes. The interviews allowed for an in-depth exploration of Educational Audiologists' perceptions (Research Question 2) and detailed discussion of best practices (Research Question 3) providing a deeper layer of contextual understanding (Throne, 2024) and so were used to build a deeper insight into the core issues identified from the online surveys, as well as to capture behaviours in their natural context (ibid.).

The interviews, scheduled for a maximum of one hour, were conducted online (via MS Teams), removing the need for participants to travel and ensuring that a broad audience could be reached. This also enabled participants to choose a time that best suited them. All sessions were recorded to support transcription. Whilst it is acknowledged that interviews are a valuable research tool due to their effectiveness in eliciting opinions, feelings, and a detailed understanding of complex issues (Denscombe, 2021); this must also be considered alongside the fact that *online* interviews may reduce the opportunity for incidental observations (e.g., of body language that may support further probing or a different approach for follow-up questions (Throne, 2024). Another consideration in using online interviews is the lack of control over the interview environment; I was unable to provide a quiet environment away from work or domestic noise. However, in accordance with BERA guidelines (2024), the impact of participation was minimized by allowing the interviewee to set the date and time of the interviews, which reduced the impact on their lives and the additional stress that participation may cause.

When deciding the best interview type, it was determined that 'semi-structured' interviews (Appendix V) were best suited to the research as they enabled a flexible, developmental approach. Structured interviews were not considered as these can be too restrictive and do not allow flexibility for unexpected insights (McGrath, Palmgren & Liljedahl,2018) and as such, do not fit with my research approach. Conversely, unstructured interviews risked

eliciting irrelevant data and may have made it difficult to draw out common themes (Throne, 2024).

3.5 Data analysis

3.5.1 Online surveys

Questions that provided quantitative data were compared through frequency distribution and are discussed in Chapter 4. Qualitative data from the online survey were analysed for emergent themes and coded using NVivo 14. Crucially, the core themes from the survey were used to develop the online semi-structured interviews. The initial themes identified were:

1. Relationships: mutual trust and respect
2. Collaboration through effective communication
3. Holistic approach
4. Enhanced skills
5. Adding value to DCYP with additional or complex needs.

3.5.2 Semi-structured interviews

The five ***initial themes*** were used to inform the semi-structured interview schedule. NVivo 14 was further employed for thematic analysis following the semi-structured interviews and Braun & Clarke's (2006) six-phase approach to thematic analysis was employed. The process began with familiarisation through repeated reading of survey responses and interview transcripts, followed by systematic coding of meaningful segments. These initial codes were then clustered into potential themes, which were reviewed and refined through an iterative process of checking against the coded extract of the entire dataset. The final themes were defined and named to capture the essence of the data they represent. Additionally, and to support the validity of the coding, 'listening' was also used as an added layer to data dissection (Cannon & Edber, 2024) to ensure that participants' voices were 'heard'.

All data was coded by the sole researcher, and AI was *not used* to support coding.

3.6 Participants

This research used a convenience sample of Educational Audiologists. Initially colleagues were contacted and were requested to participate. Further to this, at a professional course, I shared a QR code linking to the survey, to personal contacts, to further encourage their participation. This was followed up by a message sent to the BAEA, who posted an email to members. The aim was to achieve an initial sample size of 10-15 to complete the on-line survey, with a sample of five participant for the follow-up semi-structured interviews.

It was a requirement of participation to be a *qualified* Educational Audiologist who was currently in practice to ensure that any data collected was relevant to contemporary landscape.

Due to the small number of qualified Educational Audiologists in England (estimated at 51.7 full time equivalent, CRIDE, 2023), care was taken to ensure anonymity of participants. As such, information on hearing status, gender and location were not recorded. Furthermore, the online survey allowed participants to participate anonymously and to indicate if they wished to be considered for further inclusion in the research (interviews).

It must be recognised that this sample may be biased due to the personal nature of initial contact (Denscombe, 2021).

3.6.1 Participant details

A total of ten participants completed the online survey (Figure 2, p.27). One participant was excluded as they were no longer practicing, having retired from the profession. Of the remaining nine participants, seven had a background as QToDs and two as Clinical Audiologists. Total years of experience varied between two and 22 years.

Figure 2: Participants

Key:

Participant completed the online survey
Participant completed the online survey and a semi-structured interview
Participant was excluded from the sample

Participant	Job title	Years of experience as an Educational Audiologist	Route to becoming an Educational Audiologist	Time specified (days)	Typical work setting
P1	Educational Audiologist	2	QToD	None	Clinic / home / schools
P2	Specialist Teacher Adviser (Educational Audiologist)	4	QToD	1	Clinic (one day per month) / home / schools & colleges
P3	Educational Audiologist	4	QToD	1	Occasional clinic-based work / schools
P4	Educational Audiologist	4	QToD	3	Clinics with two different Health Care Trusts / home / schools
P5	Educational Audiologist	22	QToD	3.5	Clinics / home / schools
P6	Head of Service	4	QToD	None	Clinics / home / schools
P7	Paediatric Audiologist	12	Clinical Audiologist	2	Clinic / schools
P8	Audiology Lead for Education	10	Clinical Audiologist	2.5	School for DCYP / schools / Deaf unit in college
P9	Educational Audiologist	6	QToD	2.5	Clinics / home / schools
P10	Educational Audiologist	8	QToD	None	Non-clinic settings

3.7 Ethics

Ethics approval was granted by the University of Hertfordshire (Appendix I), following BERA (2024) guidelines. In line with University of Hertfordshire requirements, JISC online survey was used in the primary phase of the research. Whilst permission was not explicitly required by the completion of a consent form, participant information was included in the survey landing page (EC6, Appendix III). Progression to the survey was impossible without ticking a declaration box to confirm that the participant had read and understood the information.

The five participants who completed an online interview were required to read a participant information form (EC6) (Appendix III) and sign an EC3 (Appendix II). They were made aware that they could withdraw from the research at any point and that their contributions would remain anonymous.

All information was stored in the University of Hertfordshire OneDrive system in accordance with ethical guidelines. Following the exam board, which is anticipated to be no later than 31st December 2025, all data and recordings will be deleted.

3.8 Reflexivity

As a qualified Educational Audiologist, it is essential for me to recognise my 'insider bias' (Denscombe, 2021); participant contributions are subject to interpretation by the researcher, who may introduce bias and subjectivity (Ryan, 2018).

Due to the sampling methods used and the small, interconnected nature of Educational Audiologist professionals, I was already acquainted with six of the participants. As such, it is important to acknowledge that as a co-creator of the data, this may also lead to bias (McGrath et al., 2018), particularly as the sample sizes are small.

For both methods of data collection, I stated that I was completing the MSc dissertation in educational audiology and as such, I adopted an open status

as a qualified Educational Audiologist (with a PgDip); in doing so I hoped to stimulate a deeper understanding of the core themes.

4.0 Results

An online survey and follow-up, semi-structured interviews were conducted to determine the current practices and challenges of multidisciplinary working for Educational Audiologists as well as their perceptions of this approach in terms of delivering effective support for DCYP. It was also intended to identify areas of best practice as well as strategies that may enhance MDW in educational audiology.

Coding from the online surveys (Appendix VI, p.92) identified five themes initial themes. These five themes were used to inform the semi-structured interview schedules. Throughout the process of analysing and coding the five semi-structured interviews (using NVivo 14 and following a six-phase approach (Braun & Clarke, 2006)), it became clear that the research questions and themes were interconnected. This resulted in three final codes that were broader than the initial codes and which support a deeper exploration of the key themes. As such, during the results chapter, I have not answered the questions directly but have extrapolated the key themes. In the discussion chapter, I will then explore the interconnectedness of the key themes in relation to both the research questions and the literature.

Figure 3: Relating core themes to results and the research questions

Research question	Core related theme	Related section of results chapter
1) What are the current practices, advantages and challenges of multidisciplinary working in educational audiology?	Establishing facts indirectly related to the core themes and directly linked to the overarching theme: to deliver child-centred MDW to support enhanced outcomes for DCYP and their families.	4.3.1 Defining multidisciplinary working 4.3.2 Multidisciplinary teams 4.3.3 Primary role within the multidisciplinary team 4.3.4 Participation in joint paediatric audiology clinics 4.4 Attitudes towards multidisciplinary working

2) What are the perceptions of educational Audiologists regarding the multidisciplinary approaches in supporting DCYP?	Relationships & collaboration: mutual trust and respect through effective communication.	4.4.1 Communication and relationships among professionals
	Holistic approach: adding value to DCYP (particularly those with additional or complex needs).	4.4.2 Comprehensive, holistic care.
3) What are the best practices and strategies for enhancing multidisciplinary working in educational audiology?	Furthering professional development and learning through enhanced skills.	4.4.3 Professional development and learning

4.1 Participant information

Of the nine participants whose completed online survey questionnaires were included in my analysis, seven entered the role as an Educational Audiologist from an educational background (as a QToDs) and two (P7 and P9) from a clinical background. P7 remains working as a Paediatric Audiologist whilst P9 now works within an educational setting (see Figure 2, p.25). All were employed by an education service regardless of their routes to becoming an Educational Audiologist (BAEA, n.d.).

Participants were asked how long they had been an Educational Audiologist and what proportion of their overall job role was allocated to working specifically as an Educational Audiologist. When coding the data, there was no correlation between length of service as an Educational Audiologist or the time they had to that specific area of their job on their attitudes towards, or experiences of MDW. However, their usual place of work did, and these differences will be highlighted throughout this chapter.

4.2 Multidisciplinary working

4.2.1 Defining multidisciplinary working

Online survey participants all agreed that MDW requires both effective communication and collaboration between professionals from diverse backgrounds in order to support DCYP. In relation to the role of the Educational Audiologist, this approach requires professionals from both health and education to work together to ensure that interventions are both holistic and tailored to the needs of the DCYP. Additionally, it was noted that professionals need to work together in a respectful and collaborative way while at the same time ensuring the views of the family and DCYP are considered.

Crucially, five participants noted that MDW ultimately aims to improve and enhance outcomes for the DCYP and their family.

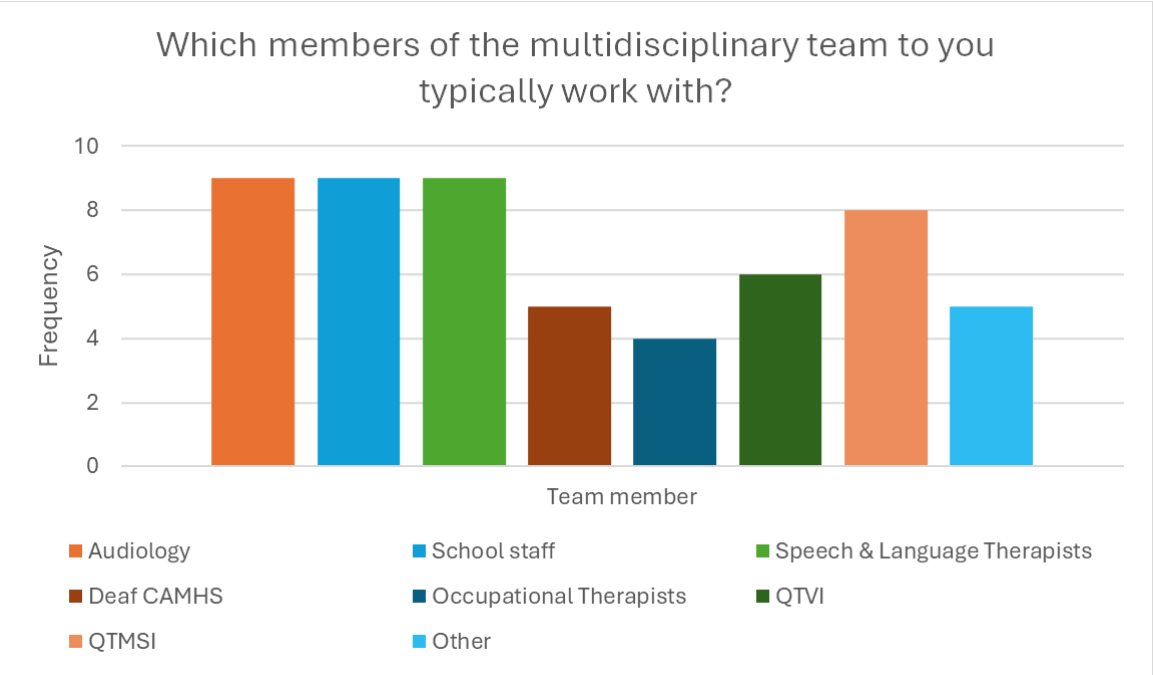
Participant number	Quote
1	*A team of professionals and family members, that can work together, respect each person's contributions and expertise, and humbly be accountable to each other benefits the individual child and everyone involved. Increasing knowledge and also providing a safe space to sometimes 'try it and see', being creative in the response to an individual and building relationships.*
5	*Collegiate, joined up working as a team around a child (or family) There should be an environment of mutual respect and trust and one where solutions are striven for in a collaborative way to ensure the very best outcomes for the child and family*
9	*The joint working and communication between professionals from different fields to help achieve the best possible outcomes for the child.*

4.2.2 Multidisciplinary teams

Seven participants stated that they worked within an MDT daily, one on a weekly basis, and one on a half-termly basis (although this was noted to be part of official MDT meetings with options for direct communication with relevant colleagues).

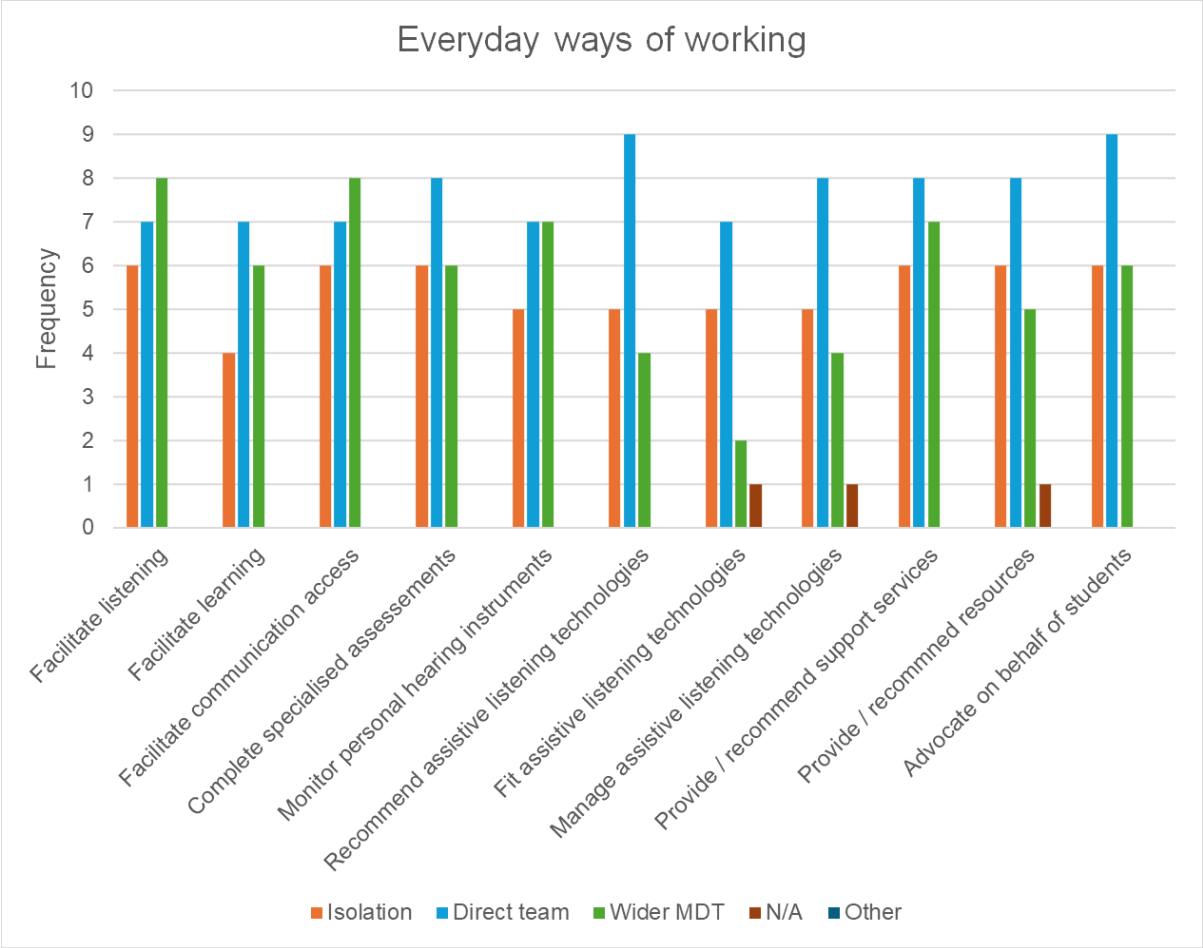
All participants stated that they work with Audiologists, school staff, and SLTs. Five noted working with other members of the MDT, and these included social care, ophthalmology, ENT, Educational Psychologists, and Children's Hearing Services Working groups.

Figure 4: Working with members of the multidisciplinary team



MDW was apparent through the everyday working practices for all tasks that the Educational Audiologists completed; however, it should be noted that working with members in the direct MDT (e.g., QToDs, school staff) was more commonly reported as an everyday working practice.

Figure 5: Everyday working practices



4.2.3 Primary role within the multidisciplinary team

Within the MDT, participants were clear about their roles; and despite their differing remits, the idea of their role as a 'bridge' to ensure that cohesive teamwork, which ultimately leads to the needs of the DCYP being met effectively, was evident.

Participant number	Quote
2	*I feel like my role is kind of the facilitator of that team, because I have the most contact.*
5	*The role of the Educational Audiologist is often the bridge, or the glue, to bring the teams of Health and Education together. The Educational Audiologist has knowledge of the roles and work of*

	specifically these two disciplines and can therefore contribute meaningfully to both teams and facilitate the wider team cohesion.

Crucially the value that an Educational Audiologist can add through a child-centred approach was stated by all participants.

Participant number	Quote
1	*[…] listening to child's other needs and characteristics and ensuring these are borne in mind to adapt clinic setting and expectations and priorities for listening, language and learning needs.*

It is important to note that the research set out to investigate the wider MDT, to include all members of health and education that may support a DCYP and their family in their journey to adulthood; however, whist the wider MDT was mentioned by some participants in relation to meetings, it was joint working with audiology that formed the basis of most responses regarding MDW.

4.2.4 Participation in joint paediatric audiology clinics

Participation in joint clinics varied amongst participants, with some engaging frequently while others did so rarely. However, while the time commitment varied between participants, only two noted that they participated 'not routinely' (P3) or 'rarely' (P9). Notably, both P3 and P9 reported working primarily within an educational setting. Additionally, both participants had different routes to each other to becoming an Educational Audiologist and this did not appear to have any bearing on the extent of their participation in joint paediatric clinics. P6 reported having previously being involved in joint clinics, however, now, as a Head of Service (and Educational Audiologist) was no longer able to facilitate this due to time constraints. P4 noted that their participation in joint clinics had recently been reduced due to one healthcare trust they typically work with having their paediatric services paused by Health Care England, resulting in paediatric work being supported by other trusts or through mutual aid.

Clinic types varied, with the following types of clinics being noted: paediatric audiology, auditory implant clinics, clinics for under 5s, and clinics for children and young people (CYP) with additional needs.

4.3 Attitudes towards multidisciplinary working

Using a Likert scale of one to five, with five being the highest score, participants were asked to rate how successfully they feel multidisciplinary collaboration is in achieving best outcomes for families and children and young people. Counter to common critique of central-tendency bias (Sullivan & Artino, 2013) five out of nine respondents rated this as a five with the remaining four rating it a four.

Participants identified the primary benefits of multidisciplinary working (MDW) as:

1. Enhanced communication among professionals
2. Improved outcomes for DCYP and their families
3. More comprehensive, holistic care
4. Professional development and learning

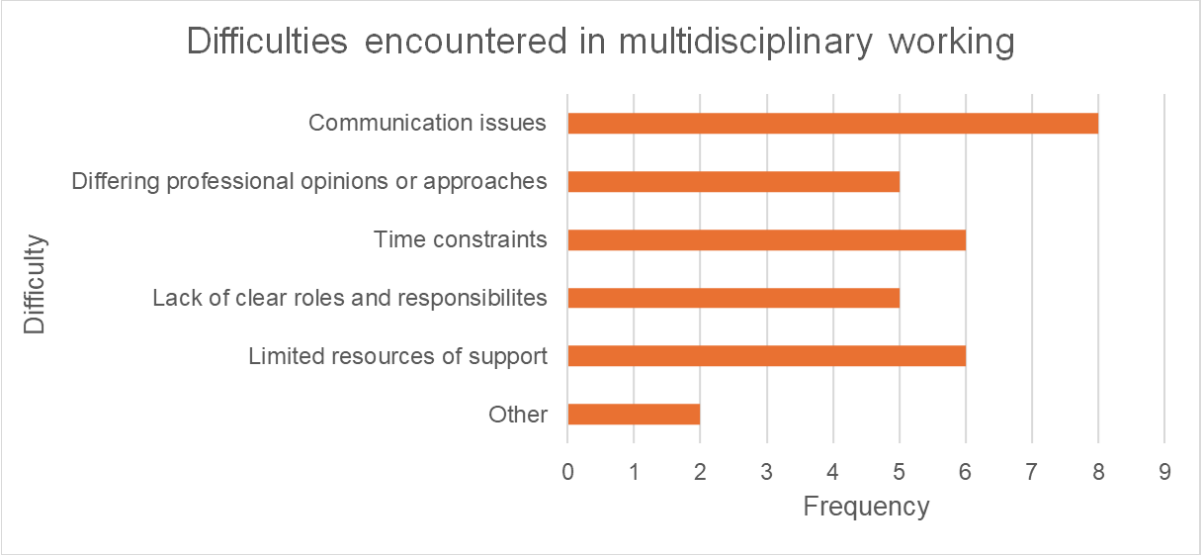
The primary benefits perceived by the participants strongly overlap with the main themes identified in the data set.

Participants reported that enhanced collaboration among professionals and family members, led to improved support and outcomes for children with hearing loss; this approach fosters holistic and creative responses to individual needs and ensures consistency and efficiency in support. It provides a unified voice for children, especially in complex cases.

Conversely, participants were asked to select from a range of potential challenges they may have encountered with MDW. Whilst most participants selected multiple options, P5 only noted one: differing data management systems leading to delays. Eight participants identified communication issues as challenging in MDW. Time and limited resources were also identified as key challenges. It should be noted that whilst lack of clear roles and

responsibilities and differing professional opinions were ‘only’ identified by five participants, this does still account for 56 per cent of this small cohort.

Figure 6: Difficulties encountered in multidisciplinary working



4.3.1 Communication and relationships among professionals

Effective communication was considered to be essential for meeting the diverse needs of DCYP and ensuring timely support, as well as preventing duplication of efforts. It was noted that if there are concerns about a DCYP then discussion as part of an MDT was essential and therefore a route to comprehensive, holistic care.

Participant number	Quote
2	*It is vital, if we all worked in isolation, things would take longer to happen or not happen at all. We can work together to deliver joined up targets and be successful. Some families are surprised when they realise that we work together and talk to each other!*
5	*If we've got specific concerns about a child, it needs to be discussed in a kind of MDT way.*
7	*I feel that multidisciplinary collaboration results in better communication between different professions and improved outcomes for children and young people.*

An essential part of effective communication was the development of trusting and respectful relationships. Indeed, when examining the interview transcripts alongside the survey questionnaire, the term relationship(s) was coded 35 times; their co-dependence means that it is not possible to effectively separate these two notions. However, P1 summarised the concept succinctly.

Participant number	Quote
1	*It is important to establish relationships and communicate effectively, preferably face to face, to ensure mutual understanding.*

Importantly, these relationships went beyond professional politeness and an exchange of information; conversations are being had that enable change, in the best interest of the DCYP.

Participant number	Quote
2	*The most value is, I've actually got to know the Audiologists and they've got to know me, and we're not worried about asking each other questions now and saying, oh, actually, can you just look this up for me, can you?* *This isn't working.* *Can you change this?* *Why have you done it like this?* *You know, could we do it like this instead?* *So, it's actually got that dialogue going between us, and they have got to know what I do and what I can't do out in the field and that I can influence things out in the field if they need something changed.* *And also, I've been able to think actually this isn't working for our team. Is there a different way we can do this, or you know can we change our policy or our practice because actually we could be more effective.*

5	*Well, I absolutely 100% think it's the relationship that the team has. The team here in [local authority] absolutely everyone has respect for each other, and everyone respects what other team members bring to the team […]. One person doesn't think that they have more knowledge than another person because everyone, everyone is aware that everybody in the team has a different piece of knowledge and all those little pieces of knowledge when they're put together make this kind of this circle round the team round the child rather than just a little piece of knowledge there a little piece of knowledge there. And for me it's about building those relationships with all those members of the team […] is absolutely fundamental, critical to MDT working. It is trusting and having respect for and being able to communicate professionally with other team members.*
6	*You don't have to be aggressive to be assertive or anything, and you don't have to be passive just because you're in a different role, I think it's equal.*

Indeed, improved outcomes were supported when professionals communicate well, working together to deliver agreed targets with the aim of achieving the best outcomes.

Participant number	**Quote**
2	*It is vital, if we all worked in isolation, things would take longer to happen or not happen at all. We can work together to deliver joined up targets and be successful. Some families are surprised when they realise that we work together and talk to each other!*

Part of this effective communication was when it was bi- or multi-directional, demonstrating the difference between communication and information giving.

Participant number	Quote
3	*So, it's very one way traffic at the minute, so again, I'm trying to help both sides of that. Say, well we need two-way communication because that's how we're most successful.*

However, it is important to note that some participants provided caveats; the success or failure of MDW can relate to how well the team members know each other and how strong those relationships are as well as the specific attitude of individuals within the team.

Participant number	Quote
3	*We don't know each other as well. We haven't really established a good working relationship yet. So, I think when I am offering advice or criticism or recommendations, it's not necessarily being listened to or understood and, obviously that then has the knock-on effect.*
8	*It very much depends on the people involved and the relationships that are nurtured. The success of multidisciplinary working can be quickly impacted by change of personnel or change of priorities for a profession or children's access to services.*

One participant noted that institutional attitudes to MDW have led to a structural breakdown of MDW, which has consequently filtered down to impact the relationships with the individuals that Educational Audiologists are working with.

Participant number	Quote
5	*She doesn't really understand the benefits of joint working and that has […] caused untold difficulties for the children that attend that clinic […] because this is where joint working has absolutely broken*

	down and the only people that are suffering because of this are the children and their families, because they're not getting that team around the child. So, we we're trying really hard still as a wider MDT […] to keep it cohesive. *[…] this particular person came in, did not believe in understand whatever, see the benefit of joint working. Within the space of a year dismantled it.*

Despite the recognition that effective communication is essential to improved outcomes for DCYP, ease of communication was frequently noted to be hindered by a lack of IT system compatibility.

Participant number	Quote
5	*The challenge, of course, is that every service is on a different system.*
8	*Some of the IT process of sharing communication i.e. reviews etc. can be difficult and cumbersome with some areas compared to others. The professionals are usually very accommodating and helpful but sometimes the IT processes can be a letdown.*

4.3.2 Comprehensive, holistic care

It was clear that MDW supported improved outcomes for DCYP and their families. Working in this way also prevented conflicting or duplicated efforts, resulting in more timely, comprehensive support.

Participant number	Quote
1	*All professionals working towards a shared purpose prevents conflicting with/doubling up on activities and interventions between individual services or professionals. This leads to improved and more timely support.*
3	*MDT working is absolutely fundamental to providing the most effective and bespoke support for a family and a CYP. If the MDT is*

	disjointed and not working together, the support is fragmented and mostly ineffective in leading to best outcomes for the family/CYP. Issues can be missed/not dealt with in a timely manner, personal and educational amplification may be incompatible- leading to loss of learning, families may not feel well supported as a team around the child and may receive differing advice.
4	*Significant positive developments for the outcomes of all children have been made in [local authority]*

MDW also considers all aspects of a child's identity and needs; it allows a combining of expertise from different services to support the whole child and to be responsive to individual needs.

Participant number	**Quote**
5	*It is not possible to support a child and family in silo. Hearing loss can impact all parts of life, and it is crucial that professionals and families work together to achieve the best outcomes. The work of all professionals can overlap and communication between all involved is paramount to success.*

In addition, regular attendance of Educational Audiologists at audiology clinics can be used to signpost families of DCYP to resources and support that are beyond the remit of an audiological clinician.

Participant number	**Quote**
4	*Even in these normal appointments, you know you can speak from an educational perspective, you can ask about the nursery, you can talk about acoustics, you can talk about education, health and care plans and possible other pots of funding that these families […] that the clinicians just really don't know about. You can also signpost*

	them to services whether it be the local NDCS group or you know the early years funding packages that are available.

Those who participate regularly in joint clinics with audiology identified the opportunities this gave them. Not only could they meet parents which enabled them to have a more rounded, holistic view of the DCYP, but they were also able to support them with educational information from within a clinic setting.

Participant number	Quote
2	*I think it's a good chance to meet the parents. I think, particularly for children who are school age because we work with the schools rather than the parents […] and you start to make connections and sometimes, yeah parents mention things in clinic that I wasn't aware of that actually would impact things at school, like those situations at home where, you know, they might tell me the reason why the child is refusing to wear the hearing aids …*
2	*Because I'm in the education side of things, I can also make links for them to other services within education that might be helpful like Portage […] other teams that they might not be aware of that they could actually access, but again that the hospital wouldn't know about. But because I'm based in education, I can say, oh, have you tried such and such or, you know, I could get in touch with such and such, and maybe we could get you some support around this.*

Participants who reported stronger working relationships with their local audiology clinics were able to offer ‘solutions’ that developed practice beyond the clinic or classroom, creating alternate spaces for inspired solutions to complex problems. Through effective joint working they were able to provide comprehensive, holistic care.

Notably, these more ‘blue sky’ solutions supported those DCYP who are potentially more vulnerable: those in special schools for DCYP, those in schools for children with multiple and complex needs as well as those in the early years.

Participant number	Quote
4	*I met with the head of Audiology last week […] we met at [a school for DCYP] which has got a sound treated room, and she basically said, wow, this room could be used. Can we use it for audiology? […]* *we've got joint working with the school, we've got joint working with myself, we've got joint working with audiology.* *The benefit is going to be these children who probably haven't been seen for nearly two years, will get tested on site, which then goes in hand with parents not having to take time off work, children off school. Parents are welcome to attend if they want, so the parents could come.*
2	*In relation to a DCYP with an ASC [Autistic Spectrum Condition] diagnosis who would not wear his cochlear processors in his nursery setting for children with special educational needs.* *[…] got his key worker from the implant service to also come as well to do a couple of joint visits with me. So, we arranged that he would get […] a programme put on his processor so that when he comes in because it would all the children arriving at the same time, it was really loud […] it was all a little bit overwhelming and quite loud. From a very quiet house into this kind of sort of controlled chaos. So, we went for a quieter programme on his processor, and I did some training with staff as well, so that they processor, confident in putting his processes on […] actually now he's wearing them for the whole session, more or less […]. It was that kind of collaboration between Mum, the implant service and the preschool and me working together to come up with, you know, let's look at*

	the situation, analyse it, what it is, make a plan and actually implement it.

A common theme was that of taking ear mould impressions. Educational Audiologists are qualified to undertake ear mould impressions for overs 5s; however, only three participants in this study do ear mould impressions, with two of them being insured to do them outside of a clinic setting. Other participants noted that the Clinical Audiologist attends school-based groups for DCYP in early years to facilitate ear mould impression taking.

Participant number	Quote
5	*Absolutely supporting those families, isn't it? That can't potentially go and get their get their impressions done. You know, at the end of the day it's a 15-minute appointment, isn't it? It might take the family the whole of the morning to get the child […] in their wheelchair, whatever in their adapted car […]. So, it's about supporting the family.*

Participants who attended effective MDT meetings believe these added value in meeting the holistic needs of DCYP.

Participant number	Quote
6	*As a result of one of those [MDT] meetings, actually, it transpired that for a family […] with two cochlear implanted children with very limited speech and communication or sign or anything. Speech and language had put in a […] referral in on several occasions as did audiology and we had one as well and the threshold by the individual referrals didn't meet. But when I collated all the information and put in a 15-page referral, we then moved on with support for the family.*

However, it was also apparent that MDW does not always work and in these instances, comprehensive and holistic care does not happen. Indeed, families may not feel supported and/or may receive differing advice or approach from a range of professionals. In these situations, it is DCYP who lose out on their learning.

Participant number	Quote
2	*I kind of have to remind audiology that it's not really their place to make recommendations about schools and what happens in schools, so sometimes we will get audiology suggesting that a child has a radio aid when actually it's not appropriate.*
3	*If the MDT is disjointed and not working together, the support is fragmented and mostly ineffective in leading to best outcomes for the family/CYP. Issues can be missed/not dealt with in a timely manner, personal and educational amplification may be incompatible- leading to loss of learning, families may not feel well supported as a team around the child and may receive differing advice*

Some of these challenges can be accounted for by a lack of clear roles and responsibilities.

Participant number	Quote
2	*Sometimes it is not clear who has responsibility for something, but I hope we do as much as we can within our remit or point people to the right person if it is not us.*
4	*Clear roles and responsibilities. I think that comes into again, you know those differences of opinion and […] remembering what their role is, and I mean it might be a case that they need educating as to what equipment is out there and why we provide something rather than the other and, actually not all children are eligible for it.*

Overall, strong relationships, developed through effective communication were considered to be the ‘key’ to effective MDW. There was a mix of opinion regarding how communication should best be fostered. All participants acknowledged the role that on-line meetings have in ensuring that more participants are able to attend different meetings; however, it was universally noted that the strength of a relationship was enhanced by meeting in-person. In addition, it was felt that issues with IT processes and data management systems can cause communication delays. Participants also suggested that changes in staffing can impact on both consistency and continuity of communication and relationships which can on occasion filter through to attitudinal changes towards MDW, at an institutional level.

4.3.3 Professional development and learning

Participants universally recognised their enhanced clinical skills and expertise, combined with a holistic approach and understanding of supporting DCYP as being vital skills that they bring to an MDT. Of note here is the recurring notion that enhanced knowledge and skills enable the Educational Audiologist to feel a higher level of confidence when working with professionals from other disciplines; they perceived a higher level of legitimacy to the value of their contributions, and as a result, allow themselves to speak more freely to other team members and to ask for support as well as to question the decisions of others.

Participant number	Quote
2	*I have learned so much from working with other professionals, and I hope they have learned from me,*
5	*To be able to look at each case holistically, understanding the 'science' around hearing loss, acoustics, physics of sound etc, but also being able to work with the family/child on the 'softer' issues around having hearing loss.*
6	*Well, I think it's the extensive knowledge as well. I think as a Teacher of the Deaf, thinking whether or not it was in my remit, whether it was a quality standards, but I think just the more in*

	depth knowledge and the confidence I think to speak freely and on par with professionals, I think even within professional meetings there's sometimes […] an imbalance, owing to different levels of qualifications and whether it's […] your position to speak and whatever. And I just […] don't buy into that ethos, really. I just speak freely and from my experience and with my skills and knowledge, you know.

These higher-level skills also supported the participants to feel more confident in trying new things when working with members of the MDT, as well as the confidence to question standard practices. As such, they are developing new ways of working with the aim of enhancing outcomes for DCYP and their families.

Participant number	**Quote**
2	*A more in-depth knowledge of how the equipment works and actually the rationale behind how we do things and why we do things. And I think doing the master's degree gave me more confidence to say why are we doing it like this, you know particularly […] with the speech discrimination testing we'd always done it a particular way because that's how it had always been done. And it wasn't until my dissertation that actually started to look at it and ask questions. And then suddenly, people were saying, oh, I don't know, we've always just done it this way. […]. So, I suppose it's given me more confidence to actually question things and want to know why are we doing it like this and actually to say if it's not working go to someone like [Manufacturer 1] or [Manufacturer 2] and say it's not working. Why isn't it working? Can you change this? Whereas before I would never have had the confidence.*

This increased confidence through more developed skills is also translated into providing training for others, particularly Clinical Audiologists. Participants

who take part in regular joint clinics report upskilling colleagues on current assistive listening devices as well as enhancing their knowledge on EHCPs and current developments within education and the SEN system. One participant noted school-based training that resulted in multiple schools adjusting their core provision.

Participant number	Quote
6	*One example is training about the effect of inadequate room acoustics on all children was delivered to schools, SENDCos [Special Educational Needs and Disabilities Coordinators], and Headteachers, resulting in several schools seeking to improve the listening and lighting conditions in their settings.*

4.4 Developing multidisciplinary working

Despite all participants recognising and celebrating the benefits of MDW, there was also a general feeling that more should be done to support and develop this way of working; a recognition that not enough joint working occurs, and that developing communication starting with building strong relationships will support this further.

Participant number	Quote
3	I don't think we offer enough joint working.
5	Start building the relationships first, and having trust, having respect for what each member of the team brings to the table because everybody brings something different. […] And I think if you don't have that, it's very difficult to build a team around the child.

Participants agreed that face-to-face meetings build confidence and improve communication, making it easier to address problems and queries.

It was also noted that developing clear explanations of the Educational Audiologist role are essential for those unfamiliar with it; advocacy for the role is necessary to help professionals understand its benefits within the team.

Participant number	Quote
2	*Training partner services so they understand our role and know what it is appropriate for us to offer is really important or families can come with unrealistic expectations. It also helps us to know what other services can offer for the same reasons.*

There was a lack of homogeneity over whether the Educational Audiologists currently used any guidelines that related to multidisciplinary working. Three stated 'yes,' two 'no' and four, 'sometimes.' However, expanded responses noted the wide range of guidelines such as: BCIG guidelines (British Association of Teachers of the Deaf & British Cochlear Implant Group, 2014), NatSIP eligibility framework (2019), NDCS quality standards (2020), RCSLT and BATOD (2019). One participant noted that they used 'common sense' (P3), and one noted that 'code of conduct examples would be good' (P7). However, standardised guidance that outline the basic requirements, roles, responsibilities, and continued expectations within an MDT will further support a developing role clarity.

Participant number	Quote
5	*I think because it had always worked for so long here, it was […] running on goodwill and as I said […] the learning point coming from this is you can't just do it like that. It has to be more strategic and more formalized.*

4.5 Summary

This study has demonstrated that Educational Audiologists seek to deliver child-centred MDW with the aim of enhancing outcomes for DCYP and their families.

The participants of this study had varying levels of involvement in joint clinics with audiology; however, they all valued these opportunities as well as other opportunities to work with the wider MDT.

Of course, MDW also has its challenges, and the data suggests that ‘communication’ was the most universal challenge to effective MDW. Conversely, research demonstrated that mutual trust and respect was fostered through effective communication, which in turn facilitated a deeper level of collaboration.

MDW was also considered by the participants of this study to be essential for meeting the holistic needs of DCYP, especially those with additional or complex needs. It was also evident from the dataset that where effective MDW did not occur, it was DCYP and their families that suffered, as their needs were not met in a timely fashion.

The study also demonstrated that Educational Audiologists felt more empowered to contribute effectively to the MDT as a result of their enhanced skills.

5.0 Discussion

Currently, there is limited research on the role of the Educational Audiologist and their contribution to MDTs. This small-scale research project aimed to investigate the current practices and challenges of multidisciplinary working for Educational Audiologists as well as their perceptions of this approach in terms of delivering effective support for DCYP and their families. The research also aimed to identify areas of best practice as well as strategies that may enhance MDW in educational audiology. To achieve this, the perspectives of nine Educational Audiologists were sought, initially through completion of an online survey. The survey collected both qualitative and quantitative data. Five of these participants then went on to be interviewed in order to obtain a greater depth of understanding of their current perceptions.

This chapter will discuss how MDW is valued by Educational Audiologists as part of their everyday working practices. It is enhanced by effective relationships and collaboration, supported by effective communication, and respect and that greater recognition through professional registration and pre-service interprofessional education are developmental areas for supporting best practice.

5.1 Multidisciplinary working

Despite a wide variation in the amount of time dedicated to MDW all participants reported MDW as a daily practice (Educational Audiology Association, 2015; Webster, 2016; Rosenberg, 2017; Rashid et al., 2022) that adopted a child-centred approach to ensure delivery of enhanced outcomes for DCYP and their families (Coleman, 2006; Davis & Meltzer, 2007). In addition, regardless of variation within an individual's job role, it was clear that participants valued MDW and felt they were an important member of the team (Educational Audiology Association, 2015, Rosenberg, 2017). Importantly, whilst it was expected that participants would discuss the full range of professionals they worked with (Figure 4) they focussed on Audiologists as their main examples and points of discussion thus highlighting the importance of the role as the bridge between health and education (Rosenberg, 2017). In keeping with research by the NDCS (2022), which highlights weekly joint

clinics between paediatric audiology and the local Educational Audiologist as evidence of good practice, participants who had regular scheduled joint clinics, reported stronger relationships, greater mutual collaboration, and more effective MDW with clinicians than those who did not have these regular connections.

However, in contrast to this good practice (NDCS 2022) all Educational Audiologists in this research were employed by education services rather than being jointly commissioned between health and education. This difference warrants more investigation; does joint commissioning lead to higher levels of effective MDW and how does this impact outcomes for DCYP and their families? Any such research would need to consider that evaluating collaborative effectiveness is difficult (Marek, Brock & Savla, 2015).

Participants working in an educational setting had a different connection with their local audiology clinic(s) than those that worked in advisory / peripatetic service. However, it must be recognised here that there was a skew in the participants' primary workplaces (two in a school setting and seven in an advisory / peripatetic setting). Of the two participants who are employed within a school setting, one works within an additional resourced centre for DCYP and one within a special school for deaf children; however, both reported less connection with the local audiology clinic than other participants. This finding contrasts with Smythe (2025) who suggest that Teachers who work within a mainstream school tend to focus their MDW with others within the school setting whereas those who work within special schools are more outward focussed. In this example, the two participants work within more specialist settings and yet they worked less with the audiology team than other participants. Of course, such a small sample may not be representative of the wider role of Educational Audiologists and the example is also not directly comparable with Smythe (2025), but it does raise questions. I would propose here that the more structured, timetabled day within such settings (when compared to those working in a peripatetic capacity) may limit the interaction of Educational Audiologists with the *externally located* MDT, but at the same time, and in agreement with Smythe (2025), the Educational Audiologist may also be more outward focussed in respect of welcoming the professionals

from the wider MDT into the school setting. As such, further investigation is required to determine if these finding were more widely applicable and if so, the reasons why. Additionally, if Educational Audiologists employed within education settings were jointly commissioned would this have an impact on outcomes or DCYP and their families? It is possible to suggest that joint commissioning would support enhanced outcomes; by both parties (health and education) having a shared investment in the Educational Audiologist some of the challenges of MDW such as effective communication, and a lack of shared systems and workspaces may be reduced. In turn, I propose that this would support enhanced outcomes for DCYP and their families. These observations and questions are particularly pertinent in relation to the 2022 SEND review (HM Government, 2022) which suggests that MDT are embedded within alternative settings. To be successful, collaborators must recognise their own strengths and weaknesses in order to avoid failure (Marek, Brock & Savla, 2015) and I would suggest that any such teams are developed within an ethos of reflective practice.

5.2 Attitudes towards multidisciplinary working

5.2.1 Communication and relationships amongst professionals

Communication was challenged by issues relating to time and systems differences as well as a lack of clear roles and responsibilities (BATOD & RCSLT, 2019); however, participants who noted that MDW worked well had developed strong relationships (Coleman, 2006; Davis & Meltzer, 2007; Cheminais, 2009) with their Clinical Audiologists and this in turn supported effective communication. Additionally, whilst acknowledging the importance of on-line meetings in permitting additional / different members of the wider team to attend meetings, relationships which had developed in person / face-to-face were considered to be stronger and in turn, more effective, thus aligning with Doyle, (2008) who identified co-location as one off four prominent themes for effective MDW. When there were communication breakdowns or relationship difficulties (Doyle, 2008) at the personal or institutional level, this had an opposite effect (Cameron & Lart, 2003); effective MDW practices quickly dissolved and DCYP and their families experiences a reduced service as a

result. Additionally, some participants noted that at times the nature of communication within an MDT can in fact be unidirectional rather than bidirectional as it is intended (Rashid et al., 2022).

These multiple difficulties, whilst frequently cited within the literature, must raise questions. Health Education England (2021) state clearly the notion of 'one workforce' (p.3) being indicative of a multi-functional and multi-professional team working together to enhance *health* outcomes. Similarly, educational policy, (UNESCO 1994; Department for Education and Department for Health, 2015; HM Government, 2022) guidance (NDCS, 2020) and professional standards (BCIG; 2014 Webster, 2016; Academy for Healthcare Science, 2023; Department for Education, 2024) all require professionals to work within MDTs. However, despite the research base (WHO, 2010; IPEC, 2016) stating that a pre-practice interprofessional learning continuum which teaches the core skills of working with others (Mas et al., 2019; Secora & Shahan, 2023), strongly supports the development of effective MDW, this training needs to be further developed in the education sector. Through allied professional, across both education and health, explicitly training together in the early stages of their training, and continuing throughout their profession (Arora, Levine & Goldstein, 2018) they would develop a deeper understanding of professional identity, therefore supporting the difficulties of clear roles and responsibilities and differences in professional language and terminology (BATOD & RCSLT, 2019). It is also important here to ensure that this training does not sit in two different silos, one for health and one for education and here, current opportunities for Clinical Audiologists to attend stand-alone modules for Educational Audiologist supports the breakdown of these barriers. Of course, it could be argued that Educational Audiologists fill this role, by acting as a bridge between the disciplines of health and education. However, by developing ***cross-disciplinary*** interprofessional education (IPE), involving the core professionals that support DCYP, that significant improvements in interprofessional attitudes (Çınar-Tanrıverdi et al., 2025) will prepare practitioners to respond to challenges in flexible and reflexive ways (Smythe, 2025). In turn this would support the development of collaboration from co-

existence to co-ownership (Cheminais, 2009) which will ultimately lead to improved MDW and therefore enhanced outcomes (Davis & Meltzer, 2007).

5.3 Comprehensive holistic care

All participants felt strongly that MDW supported enhanced outcomes for DCYP and their families (Moeller et al., 2013; Children and Families Act, 2014; NDCS & Medical Research Council, 2021) and as a result of professionals from different disciplines working together, the holistic needs of DCYP were better met.

Furthermore, attendance at regular joint audiology clinics supported the notion of person-centred, family partnership as a cornerstone of MDW (Davis & Meltzer, 2007; Cheminais, 2009; Children & Families Act, 2014; HM Government, 2022) by enabling relationships with parents to be initiated, developed and grown (dependent on the stage of the DCYP and their contact with audiology services). In addition, these clinics reduced the notion of fragmented care (McClain, Shahidullah & Harris, 2024) and as such reduced duplications and conflicting advice.

Significantly, the working practices of Educational Audiologists who worked for a local authority and visited special schools as part of their role made a significant impact to holistic care for example, by taking ear mould impressions or by setting up an audiology clinic within the school. As a result, the participants ensured that the DCYP's listening needs were met and at the same time delivered family-centred care. It was in these examples where the most significant 'collaborative advantage' (Coleman, 2006:6) was evident as well as a greater integration of services (Health Education England, 2021). These examples highlighted the value added that Educational Audiologists can deliver to DCYP who are not educated in mainstream settings and is especially pertinent when considered alongside the fact that approximately 30 – 40 percent of DCYP have an additional need (NDCS, n.d. b).

Whilst it is not possible to determine if these differences were down to individual approaches, job role or time, it is clear that these examples support the notion of the reconceptualised school where the schools act 'as central

hubs within a framework where services and advocacy exist within and across all child-serving systems of care (e.g., educational, health care, family, and community)' (McClain, Shahidullah & Harris, 2024).

Participants did report some degree of conflicting advice from audiology colleagues; this was connected to both a lack of understanding from Paediatric Audiologists of what goes on in schools, assistive listening technology and a lack of clear roles and responsibilities (BATOD & RCSLT, 2019). As such, I would argue that it would be appropriate here to build on the work of BATOD & RCSLT (2019) to develop a best practice guidance for professionals working with DCYP, to include at its core, QToDs, Educational Audiologists, Teachers, Paediatric Audiologists and SLTs. Collaborating on its development will in itself highlight some of the difficulties faced by these professionals when working together and also support the professional bodies to campaign for a higher level of IPE at the pre-service level.

5.4 Professional development and learning

Educational Audiologists in this research reported higher levels of legitimacy, as a result of enhanced professional knowledge and skills (Webster, 2016; Rosenberg, 2017), thus suggesting how much they value their additional training. In turn, this supported participants to feel more confident, able to speak out and ask questions. It could be argued that the additional training undertaken by Educational Audiologists, which bridges both education and health, supports these professionals to develop the language of their professional peers (as well as having a greater understanding of the service issues encountered by Clinical Audiologists (BATOD & RCSLT, 2019). In contrast, a lack of status in their role was also felt (Ash, 2021) to hinder MDW, with other professionals not understanding the what the role entails and whilst it was not explicitly explored, status may account for the differences in the levels of MDW between those participants who worked in advisory roles and those who worked in educational settings.

Again, this highlights the need for a greater level of professional recognition to support collaborative working (Ash, 2021) and enhance outcomes (Webster,

2016). It could be argued here that mandated professional registration for Educational Audiologists with the AHCS would support this recognition by elevating the profession and in turn the individual professionals, thus bolstering the confidence of professionals as they work alongside their allied counterparts. However, the cost of registration in a time of reducing budgets, as well as time and funding for continuing professional development need to be considered when considering professional registration. As such, I would suggest an appetite for mandatory registration would be unlikely.

Certainly, it could be suggested that without a strong professional identity, it would be challenging to develop a strong interprofessional identity. However, there is a degree of contradiction here; the role of the QToD is mandated but does not have a professional body whilst the role of the Educational Audiologist is not mandated and does have (voluntary) registration with the AHCS (BAEA, 2018). Further research is needed to determine if mandated professional registration of Educational Audiologists (and QToDs) would support greater feelings of legitimacy and enhanced status that would support professionals working in deaf education to be viewed as 'equals' alongside their audiology and SLT peers and, importantly, to determine how would this impact their contributions to the MDT.

5.5 Developing multidisciplinary working

Participants, despite reporting that MDW was a part of their daily working life, also felt that more could be done; effective communication that supports the development of strong relationships was the cornerstone of improving this way of working (Coleman, 2006; Davis & Meltzer, 2007; Health Education England, 2017). In addition to this, clarity regarding clear roles and responsibilities as well as professional guidelines were also considered to be essential. Due to the inter-related nature of the findings of this research, these points have been discussed above. However, what became clear throughout this research is the fundamental role that early, pre-service, interprofessional education plays (Page et al., 2018; Mas et al., 2019) for each of these aspects of MDW. Here, I would suggest a piece of action-

research with core professionals (QToDs, Educational Audiologists, Teachers, Paediatric Audiologists, SLT) where explicit training is provided for working effectively in an MDT. The research would assess knowledge and skills acquisition both post pre- and post- training relating to understanding of MDT roles, collaboration strategies and communication protocols. Importantly, this piece of longitudinal research would measure service delivery metrics such as joint planning or family satisfaction. It would also need to assess sustainability and transferability by tracking for sustained change and obtaining feedback from wider stakeholders. A piece of research such as this would develop the recommendations of Secora & Shahan (2023) even further. Their research into joint working between SLTs and QToDs, recommended ‘joint classroom experiences, explicit instruction in critical skills and competencies for successful collaboration, modelling collaboration through co-teaching, and explicit instruction and practice in conflict management and perspective-taking' (p.492). By bringing more practitioners to the table, at the earliest stage of their careers, it may be possible to create a seismic shift in deaf education, where barriers such as negative institutional attitudes or communication breakdown become significantly reduced and where all practitioners have the utmost respect and understanding of the skills, roles and responsibilities of other professionals.

5.7 Limitations

This was a small-scale study, that used a voluntary, convenience sample. As such, there may be gaps in the data, as others who were not reached may have had different opinions. Additionally, due to the nature of the sampling technique, a large proportion of those who participated were already known to me and this may cause unintentional bias (Ryan, 2018; Denscombe, 2021).

However, to ameliorate some of these limitations, methodological triangulation, combining both surveys and follow-up, in-depth semi-structured interviews (Regnault, Willgoss & Barbic, 2018) was used. To improve reliability further I acted as the sole coder to support consistency.

Time was also a limiting factor in this research (Throne, 2024); recruiting a larger sample of Educational Audiologists who are employed by both education and health would enable the results to be more reliable.

Findings are specific to Educational Audiologists employed by local authority and education settings in the UK, and so caution must be applied to not make generalisations outside of those contexts.

5.8 Recommendations for future research

This research has highlighted that Educational Audiologists working in specialist settings work differently to those who work in peripatetic or advisory roles. Further research to determine the breadth of these differences with the aim of creating a document that clarifies the different roles and responsibilities would support role clarity, improve MDW and potentially lead to an increase in both visibility and status for Educational Audiologist professionals.

Further investigation is also needed into the impact of pre-practice interprofessional learning for all professionals involved in educating or working with DCYP such as QToDs, Educational Audiologists, mainstream Teachers, SLT, Paediatric Audiologists and Special Educational Needs and Disabilities Coordinators, to determine the impact of this on MDW.

Lastly, I would propose the need for an investigation into the role of mandated professional registration on feelings of professional legitimacy and enhanced status on effective MDW.

6.0 Conclusion

This research set out to answer the following questions:

1) What are the current practices and challenges of multidisciplinary working in educational audiology?

2) What are the perceptions of Educational Audiologists regarding the multidisciplinary approaches in supporting DCYP?

3) What are the best practices and strategies for enhancing multidisciplinary working in educational audiology?

The data demonstrated these questions to be highly inter-related and, as such, challenging to separate and provide clear, segregated responses. However, the Educational Audiologists who participated in this study, universally reported MDW as being a daily practice and one that supports enhanced outcomes for DCYP and their families. However, they face a number of challenges such as time, systems and a lack of clear roles and responsibilities.

Communication and relationships were identified as a key component of successful collaborative practice. When these were strong and effective they enabled holistic and creative responses to individual needs that supported both DCYP and their families. Conversely, when communications and relationships were not strong, this resulted in reduced outcomes for DCYP and their families.

Educational Audiologists within this study demonstrated comprehensive and holistic care throughout all areas of their practice. Regular attendance at joint clinics reduced fragmented care and supported person-centred, family partnerships. Significantly, those who visited specialist provisions as part of a peripatetic role truly embraced to concept of MDW and in doing so, developed unique solutions to complex issues.

Participants' additional training and skills positively impacted on their feelings of legitimacy within an MDT; this enabled them to feel more confident and therefore have a greater impact within MDT. However, this was combined with a lack of recognition for a role that is currently not mandated.

Overall, the research and literature support the notion of early interprofessional education of Educational Audiologist and the wider MDT as the most comprehensive strategy to both support and enhance MDW and in turn, outcomes for DCYP and their families.

References

Academy for Healthcare Science (2023) *Improving quality, protecting patients. Standards of Proficiency for Healthcare Science Practices.* Available at: -006-Standards-of-Proficiency-for-Healthcare-Science-Practitioners-v1.3-June-2023.pdf. [Accessed 03/02/25].

Arora P.G., Levine J.L., & Goldstein T.R. (2019) 'School psychologists' interprofessional collaboration with medical providers: An initial examination of training, preparedness, and current practices'. *Psychol Schs*, 56, 554–568. https://doi.org/10.1002/pits.22208. [Accessed 25/04/25].

Ash, S. (2021) *The role of the Educational Audiologist in the UK: experience and perspectives from the field.* Available at: https://mary-hare.files.svdcdn.com/production/files/Research-Publications/Simon-Ash-MSc.pdf?dm=1729084924. [Accessed 12/03/25].

BAEA (n.d.) *What is an Educational Audiologist?* Available at: https://www.educational-Audiologists.org.uk/index.php. [Accessed 07/04/25].

BAEA (2018) *PRESS RELEASE 20 June 2018 Historical first - professional registration for Educational Audiologists*. Available at: https://www.educational-Audiologists.org.uk/registration_press.pdf. [Accessed 01/05/25].

Bell, J. (2024) *Doing Your Research Project: A Guide for First-Time Researchers*. 8th edn. Maidenhead: McGraw-Hill Education.

Braun, V., & Clarke, V. (2006). 'Using thematic analysis in psychology'. *Qualitative Research in Psychology*, 3 (2), 77– 101. https://doi.org/10.1191/1478088706qp063oa. [Accessed 15/03/25].

British Academy of Audiologists (2023) *British Academy of Audiology Education, Education and Registration: Curriculum guidance document – audiology.* Available at: https://www.baaudiology.org/app/uploads/2023/05/BAA-Curriculum-Guidance-Document-Audiologist-May-2023.pdf. [Accessed 07/03/25].

British Association of Teachers of the Deaf & British Cochlear Implant Group (2014) *Working with Children and Young People with Cochlear*

Implants. Available at: https://www.bcig.org.uk/_userfiles/pages/files/ictodguidelinesfinal2014.pdf. [Accessed 07/03/25].

British Association of Teachers of the Deaf & Royal College of Speech and Language Therapists (2019) *Collaborative Working between Qualified Teachers of the Deaf and Speech and Language Therapists*. Available at: https://www.rcslt.org/wp-content/uploads/media/docs/clinical-guidance/rcslt-batod-guidance.pdf. [Accessed 06/03/25].

British Educational Research Association (BERA) (2024) *Ethical guidelines for educational research, fifth edition* (2024). Available at: https://www.bera.ac.uk/publication/ethical-guidelines-for-educational-research-fifth-edition-2024-online. [Accessed 04/02/25].

Cannon & Edber (2024) Chapter 6. 'Thematic resonances: listening as an alternative to data dissection in Wolgemuth', J. R., Guyotte, K. W., & Shelton, S. A. (2024). *Expanding Approaches to Thematic Analysis: Creative Engagements with Qualitative Data* (1st ed.). Taylor & Francis Group.

Cameron, A. & Lart, R. (2003) 'Factors Promoting and Obstacles Hindering Joint Working: A Systematic Review of the Research Evidence', *Journal of integrated care* (Brighton, England), 11(2), pp. 9–17.

Cheminais, R. (2009), *Effective Multi-Agency Partnerships: Putting Every Child Matters into Practice,* SAGE Publications, Limited, London.

Children and Families Act 2014, c. 6. Available at: http://www.legislation.gov.uk/ukpga/2014/6/contents/enacted [Accessed 07/04/25].

Çınar Tanrıverdi, E., Balcı Akpınar, R., Yurttaş, A., & Çiftçi, B. (2025). 'The road to collaboration: The transformative effects of interprofessional education on students' interprofessional attitudes and readiness', socialisation and valuing in medical and nursing students. *Nurse education in practice*, *82*, 104230. https://doi.org/10.1016/j.nepr.2024.104230. [Accessed 25/04/25].

Coleman, A. (2006) *Collaborative leadership in schools. Leading in a multiagency environment. National College for School Leadership*. Available at: https://dera.ioe.ac.uk/id/eprint/2051/7/collaborative-leadership-in-extended-schools_Redacted.pdf. [Accessed 03/02/25].

Cox, M., Cuff, P., Brandt, B., Reeves, S., & Zierler, B. (2016). 'Measuring the impact of interprofessional education on collaborative practice and patient outcomes'. *Journal of Interprofessional Care*, *30*(1), 1–3.

CRIDE (2023) 2023 report for England: Educational provision for deaf children in England in 2022/23. Available at: https://www.ndcs.org.uk/media/9244/cride-2023-england-report.pdf. [Accessed 20/05/25].

Davis, H. & Meltzer, L. (2007) *Working in Partnership through Early Support: distance learning text. Working with parents in partnership. Department for Education and Skills*. Available at: https://dera.ioe.ac.uk/id/eprint/15598/1/working_with_parents_in_partnership.pdf. [Accessed 03/02/25].

DeConde Johnson, C. & Seaton, J.B. (2019) *Educational Audiology Handbook*, Plural Publishing, Incorporated.

Denscombe, M. (2021) *The Good Research Guide: Research Methods For Small-Scale Social Research Projects*. 7th edn. Maidenhead: McGraw-Hill Education.

Department for Education (2023) *Specification for Mandatory Qualifications For specialist teachers of children and young people with hearing impairments*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1139637/Spec_for_mandatory_quals_hearing_impairments_from_Sept_2023.pdf. [Accessed 07/04/25].

Department for Education (2024) *Initial teacher training and early career framework*. Available at: https://www.gov.uk/government/publications/initial-teacher-training-and-early-career-framework. [Accessed 06/03/25].

Department for Education and Department of Health (2015) *Special educational needs and disability code of practice: 0 to 25 years*. Available at: https://www.gov.uk/government/publications/send-code-of-practice-0-to-25 [07/04/25].

Department for Education and Skills. (2003). *Every Child Matters*. London: The Stationery Office.

Deutskens, E., De Ruyter, K., Wetzels, M., & Oosterveld, P. (2004). 'Response Rate and Response Quality of Internet-Based Surveys: An Experimental Study'. *Marketing Letters*, *15*(1), 21–36.

Doyle J. (2008). 'Barriers and facilitators of multidisciplinary team working: a review'. *Paediatric nursing*, 20(2), 26–29. https://doi.org/10.7748/paed2008.03.20.2.26.c6526. [Accessed 03/02/25].

Education and Training Inspectorate (2021) *Multidisciplinary approaches to meeting the needs of pupils in special schools*. Available at (https://www.etini.gov.uk/sites/etini.gov.uk/files/publications/multidisciplinary-approaches-used-to-meet-the-needs-of-pupils-in-special-schools_0.pdf). [Accessed 04/02/25].

Educational Audiology Association (2015) *Supporting students who are deaf and hard of hearing: recommended roles of educational audiologists and teachers of the deaf and hard of hearing.* Available at www.edaud.org [Accessed 01/04/25].

Educational Audiology Association (2017) *Educational Audiologist Role Defined*. Available at: https://edaud.org/educational-Audiologist-role-defined/. [Accessed 03/02/25].

Florence, S. (2019) 'Chapter 17: Reflections and future directions', in DeConde Johnson, C. & Seaton, B. (eds.) *Educational Audiology Handbook*, Plural Publishing, Incorporated, 2019.

Given, L.M. (2008) *The SAGE Encyclopaedia of Qualitative Research Methods*. 1st edn. Thousand Oaks: SAGE Publications, Incorporated.

Health Education England (2017) *Person-centred approaches: empowering people in their lives and communities to enable an upgrade in prevention, wellbeing, health, care and support. A core skills education and training framework*. Available at: https://www.skillsforhealth.org.uk/wp-content/uploads/2021/01/Person-Centred-Approaches-Framework.pdf. [Accessed 11/03/25].

Health Education England (2021) *Working differently together: progressing a one workforce approach. Multidisciplinary team toolkit*. Available at: https://www.hee.nhs.uk/sites/default/files/documents/HEE_MDT_Toolkit_V1.1.pdf. [Accessed 02/02/25].

HM Government (2022) *SEND Review: Right support, right place, right time. Government consultation on the SEND and alternative provision system in England*. Available at: https://assets.publishing.service.gov.uk/media/624178c68fa8f5277c0168e7/SEND_review_right_support_right_place_right_time_accessible.pdf. [Accessed 03/02/25].

Ida institute (no date) *What we do*. Available at: https://idainstitute.com/what_we_do/. Accessed 04/06/25.

Interprofessional Education Collaborative [IPEC]. (2016). *IPEC core competencies*. Available at: https://ipec.memberclicks.net/assets/2016-Update.pdf. [Accessed 03/02/25].

Interprofessional Education Collaborative [IPEC]. (2023) *IPEC core competencies for interprofessional collaborative practice.* Available at: https://www.ipecollaborative.org/assets/core-competencies/IPEC_Core_Competencies_Version_3_2023.pdf. [Accessed 13/04/25].

Kılınç, H., & Fırat, M. (2017) 'Opinions of expert academicians on online data collection and voluntary participation in social sciences research', *Educational Sciences : Theory & Practice*, 17(5), 1461-1486. Available at: https://doi.org/10.12738/estp.2017.5.0261.

Marek, L.I., Brock, D.-J.P. & Savla, J. (2015) ‘Evaluating Collaboration for Effectiveness: Conceptualization and Measurement’, *The American journal of evaluation*, 36(1), 67–85.

Mas, J.M., Dunst, C.J., Balcells-Balcells, A., Garcia-Ventura, S., Giné, C. & Cañadas, M. (2019) ‘Family-centered practices and the parental well-being of young children with disabilities and developmental delay’, *Research in developmental disabilities*, 94(NA), 103495–103495.

McClain, M. B., Shahidullah, J. D., & Harris, B. (2024). ‘Improving student outcomes through interprofessional and interagency collaboration’. *School psychology (Washington, D.C.)*, *39*(4), 349–352. https://doi.org/10.1037/spq0000653.

McGrath, C., Palmgren, P. J., & Liljedahl, M. (2018). ‘Twelve tips for conducting qualitative research interviews’. *Medical Teacher*, 41(9), 1002-1006. https://doi.org/10.1080/0142159x.2018.1497149.

MESH Guides. (no date) *Educational Audiology*. [online] Available at: https://www.meshguides.org/guides/node/1865 [Accessed 6 May 2025].

Moeller, M.P., Carr, G., Seaver, L., Stredler-Brown, A. and Holzinger, D. (2013) ‘Best Practices in Family-Centered Early Intervention for Children Who Are Deaf or Hard of Hearing: An International Consensus Statement’, *Journal of deaf studies and deaf education*, 18(4), 429–445.

Murdoch, M., Simon, A. B., Polusny, M. A., Bangerter, A. K., Grill, J. P., Noorbaloochi, S., & Partin, M. R. (2014). ‘Impact of different privacy conditions and incentives on survey response rate, participant representativeness, and disclosure of sensitive information: a randomized controlled tria’l. *BMC Medical Research Methodology*, *14*(1), 90–90.

National Sensory Impairment Partnership (2019) *Eligibility framework for scoring support levels for deaf children from birth to the end of F1*. Available at: https://www.natsip.org.uk/eligibility-framework. [Accessed 01/04/25].

NDCS (no date a) *Children's Hearing Services Working Groups (CHSWGs)*. Available at: https://www.ndcs.org.uk/our-services/improving-

local-services/childrens-hearing-services-working-groups-chswgs/. [Accessed 07/03/25].

NDCS (no date b) *Types of additional needs*. Available at: Different additional needs | Deaf children and additional needs. [Accessed 01/05/25].

NDCS (2020) *Quality Standards: Resource Provisions for Deaf Children and Young People in Mainstream Schools*. Available at: https://www.ndcs.org.uk/documents-and-resources/quality-standards-resource-provisions-for-deaf-children-and-young-people-in-mainstream-schools/. [Accessed 07/03/25].

NDCS (2022) *LISTEN UP 2022 Children's hearing services in England A report by the National Deaf Children's Society*. Available at: https://www.ndcs.org.uk/media/8585/listen-up-2022-report-final.pdf. [Accessed 24/04/25].

NDCS and Medical Research Council (2021) *Caring for hearing aid use in babies (CHerUB)*. Available at: https://www.cherubproject.co.uk/. [Accessed 12/04/25].

NHS (2014) Five year forward view. Available at: https://www.england.nhs.uk/publication/nhs-five-year-forward-view/. [Accessed 11/03/25].

Page, T. A., Harrison, M., Moeller, M. P., Oleson, J., Arenas, R. M., & Spratford, M. (2018). 'Service Provision for Children Who Are Hard of Hearing at Preschool and Elementary School Ages'. *Language, Speech & Hearing Services in Schools*, *49*(4), 965–981.

Pervin, N., & Mokhtar, M. (2022). 'The Interpretivist Research Paradigm: A Subjective Notion of a Social Context'. *International Journal of Academic Research in Progressive Education and Development,* 11(2), 419–428.

Rashid, M. F. N., Quar, T. K., Maamor, N., Chong, F. Y., Zakaria, M. N., Mustafa, M. C., & Hosshan, H. (2022). 'Demystifying the Specific Roles and Challenges of Educational Audiologists: A Narrative Review'. *Proceedings*.

2022; 82(1), 17. https://doi.org/10.3390/proceedings2022082017. [Accessed 12/01/25].

Regnault, A., Willgoss, T., & Barbic, B. (2018) 'Towards the use of mixed methods inquiry as best practice in health outcomes research (On behalf of the International Society for Quality of Life Research (ISOQOL) Mixed Methods Special Interest Group (SIG))', *Journal Patient Rep Outcomes*. 2(19). Available at: https://doi.org/10.1186/s41687-018-0043-8. [Accessed 26/02/25].

Revilla, M. & Höhne, J. K. (2020). 'How long do respondents think online surveys should be? new evidence from two online panels in Germany.' *International Journal of Market Research*, 62(5), 538-545. https://doi.org/10.1177/1470785320943049. [Accessed 26/02/25].

Rosenberg, J. F. (2017) 'Educational Audiologists: adding value, bridging gaps'. *ENT and audiology news.* 26(4). Available at: http://www.educational-Audiologists.org.uk/adding_value.pdf . [Accessed 03/02/25].

Ryan, G. (2018) 'Introduction to positivism, interpretivism and critical theory', *Nurse researcher*, 25(4), 14–20.

Sandar, S. (2022) 'The Importance of Interprofessional Collaboration in Schools: Perceptions of Teachers, Teacher Educators and Student Teachers'. *Practice and theory in systems of education*. 17(1), 22 -39.

Secora, K., & Shahan, C. L. (2023). 'Teaching Collaborative Practices: A Scoping Review of Preservice Interprofessional Education With a Focus on Preservice Speech-Language Pathologists and Preservice Teachers of Deaf and Hard of Hearing Students'. *Perspectives of the ASHA Special Interest Groups*, 8(3), 492–518. https://doi.org/10.1044/2023_PERSP-22-00141. [Accessed 31/01/25].

Smythe, F. (2025). 'Collaborative Practices for Inclusion of Pupils with SEND in England: Teachers' Views from Mainstream and SEND Schools'. *British Journal of Educational Studies*, 1–20. https://doi.org/10.1080/00071005.2024.2445619. [Accessed 05/01/25].

Special Educational Needs and Disabilities Act 2001, c. 10. Available at: http://www.legislation.gov.uk/ukpga/2001/10/contents [Accessed 07/04/25).

Styhre, A. & Sundgren, M. (2005) 'Action Research as Experimentation'. *Systematic Practice and Action Research.* 18, 53–65. https://doi.org/10.1007/s11213-005-2459-3. [Accessed 26/02/25].

Sullivan, G.M. & Artino A.R. (2013) 'Analyzing and interpreting data from likert-type scales'. *Journal of Graduate Medical Education* Dec;5(4), 541-2. https://doi.org/10.4300/JGME-5-4-18. [Accessed 26/02/25].

Szarkowski, A., Gale, E., Moeller, M.P., Smith, T., Birdsey, B.C., Moodie, S.T.F., Carr, G., Stredler-Brown, A. & Yoshinaga-Itano, C. (2024) 'Family-Centered Early Intervention Deaf/Hard of Hearing (FCEI-DHH): Structure Principles', *Journal of deaf studies and deaf education*, 29(SI), SI86–SI104.

Thomas, G. (2017) *How to do your research project: a guide for students*. 3rd edn. Los Angeles: SAGE.

Throne, R. (2024) *Qualitative Research Methods for Dissertation Research*. 1st edn. Hershey: IGI Global.

Turner, S.F., Cardinal, L.B. and Burton, R.M. (2017) 'Research Design for Mixed Methods: A Triangulation-based Framework and Roadmap', *Organizational research methods*, 20(2), 243–267.

UNESCO (1994). *The Salamanca Statement and Framework for Action on Special Needs Education.* Paris: UNESCO.

Webster, G. (2016*) The role of the Educational Audiologist*. Available at: http://www.educational-Audiologists.org.uk/Roles.pdf. [Accessed 03/02/25].

Webster, G & Keene, P. (2018) *An Educational Audiologist – Adding value to services for deaf children. BAEA's View*. Available at: http://www.educational-Audiologists.org.uk/edaud-value.pdf. [Accessed 12/03/25].

World Health Organization (2010) *Framework for Action on Interprofessional Education & Collaborative Practice*. Available at:

https://iris.who.int/bitstream/handle/10665/70185/WHO_HRH_HPN_10.3_eng.pdf?sequence=1. [Accessed 10/04/25].

Appendix I – Ethics approval

SOCIAL SCIENCES, ARTS AND HUMANITIES ECDA

ETHICS APPROVAL NOTIFICATION

TO	**Sarah Davis**
CC	**Dr Joy Rosenberg**
FROM	**Dr Ian Willcock, Social Sciences, Arts and Humanities ECDA Chair**
DATE	**17/09/2024**

Protocol number:	cSLE/PGT/UH/06198
Title of study:	Enhancing Multi-Disciplinary Working for Educational Audiologists

Your application for ethics approval has been accepted and approved with the following conditions by the ECDA for your School and includes work undertaken for this study by the named additional workers below:

No additional workers named

Conditions of approval specific to your study:

Ethics approval has been granted subject to the following point which must be checked by the supervisor before any activity takes place:

- All data, consent forms and recordings must only be stored on the applicant's UH-supplied One Drive (i.e. recordings must not be stored on a personal laptop).

General conditions of approval:

Ethics approval has been granted subject to the standard conditions below:

Permissions: Any necessary permissions for the use of premises/location and accessing participants for your study must be obtained in writing prior to any data collection commencing. Failure to obtain adequate permissions may be considered a breach of this protocol.

External communications: Ensure you quote the UH protocol number and the name of the approving Committee on all paperwork, including recruitment advertisements/online requests, for this study.

Invasive procedures: If your research involves invasive procedures you are required to complete and submit an EC7 Protocol Monitoring Form, and copies of your completed consent paperwork to this ECDA once your study is complete.

1

Submission: Students must include this Approval Notification with their submission.

Validity:

This approval is valid:

From: 17/09/2024

To: 31/05/2025

Please note:

Failure to comply with the conditions of approval will be considered a breach of protocol and may result in disciplinary action which could include academic penalties.
Additional documentation requested as a condition of this approval protocol may be submitted via your supervisor to the Ethics Clerks as it becomes available. All documentation relating to this study, including the information/documents noted in the conditions above, must be available for your supervisor at the time of submitting your work so that they are able to confirm that you have complied with this protocol.

Should you amend any aspect of your research or wish to apply for an extension to your study you will need your supervisor's approval (if you are a student) and must complete and submit form EC2.
Approval applies specifically to the research study/methodology and timings as detailed in your Form EC1A. In cases where the amendments to the original study are deemed to be substantial, a new Form EC1A may need to be completed prior to the study being undertaken.

Failure to report adverse circumstance/s may be considered misconduct.
Should adverse circumstances arise during this study such as physical reaction/harm, mental/emotional harm, intrusion of privacy or breach of confidentiality this must be reported to the approving Committee immediately.

Appendix II – Ethics consent form

University of Hertfordshire UH Ethics Committee

UNIVERSITY OF HERTFORDSHIRE
ETHICS COMMITTEE FOR STUDIES INVOLVING THE USE OF HUMAN PARTICIPANTS
('ETHICS COMMITTEE')

FORM EC3
CONSENT FORM FOR STUDIES INVOLVING HUMAN PARTICIPANTS

I, the undersigned *[please give your name here, in BLOCK CAPITALS]*

.....
of *[please give contact details here, sufficient to enable the investigator to get in touch with you, such as a postal or email address]*

.....
hereby freely agree to take part in the study entitled: ***Enhancing Multi-Disciplinary Working for Educational Audiologists***

(UH Protocol number cSLE/PGT/UH/06198)

1 I confirm that I have been given a Participant Information Sheet (a copy of which is attached to this form) giving particulars of the study, including its aim(s), methods and design, the names and contact details of key people and, as appropriate, the risks and potential benefits, how the information collected will be stored and for how long, and any plans for follow-up studies that might involve further approaches to participants. I have also been informed of how my personal information on this form will be stored and for how long. I have been given details of my involvement in the study. I have been told that in the event of any significant change to the aim(s) or design of the study I will be informed, and asked to renew my consent to participate in it.

2 I have been assured that I may withdraw from the study at any time without disadvantage or having to give a reason.

3 In giving my consent to participate in this study, I understand that voice, video or photo-recording will take place and I have been informed of how/whether this recording will be transmitted/displayed.

4 I have been told how information relating to me (data obtained in the course of the study, and data provided by me about myself) will be handled: how it will be kept secure, who will have access to it, and how it will or may be used.

5 I understand that if there is any revelation of unlawful activity or any indication of non-medical circumstances that would or has put others at risk, the University may refer the matter to the appropriate authorities.

6 I have been told that I may at some time in the future be contacted again in connection with this or another study.

Signature of participant.....Date.....

Signature of (principal) investigator: *S.J. Davis* Date: 23/10/24

Name of (principal) investigator *SARAH DAVIS*

Appendix III – Participant information form

University of Hertfordshire UH Ethics Committee

UNIVERSITY OF HERTFORDSHIRE

ETHICS COMMITTEE FOR STUDIES INVOLVING THE USE OF HUMAN PARTICIPANTS ('ETHICS COMMITTEE')

FORM EC6: PARTICIPANT INFORMATION SHEET

1 **Title of study**

Enhancing Multi-Disciplinary Working for Educational Audiologists

2 **Introduction**

You are being invited to take part in a study as part of a Master's degree in Educational Audiology. Before you decide whether to do so, it is important that you understand the study that is being undertaken and what your involvement will include. Please take the time to read the following information carefully and discuss it with others if you wish.

Do not hesitate to ask me anything that is not clear or for any further information you would like to help you make your decision. Please do take your time to decide whether or not you wish to take part. The University's regulation, UPR RE01, 'Studies Involving the Use of Human Participants' can be accessed via this link:

https://www.herts.ac.uk/about-us/governance/university-policies-and-regulations-uprs/uprs
(after accessing this website, scroll down to Letter S where you will find the regulation)

Thank you for reading this.

3 **What is the purpose of this study?**

This research aims to explore the complexities and potential benefits of multi-disciplinary working for educational audiologists, with a focus on improving outcomes for children, young people and their families.

4 **Do I have to take part?**

It is completely up to you whether you decide to take part in this study. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a consent form.

Agreeing to join the study does not mean that you have to complete it. You are free to withdraw at any stage without giving a reason.

5 **Are there any age or other restrictions that may prevent me from participating?**

To take part you must be an Educational Audiologist who is working within a local authority setting in England.

6 **How long will my part in the study take?**

This study has two stages. You may be asked to participate in one or both.

The first stage should is completion of an on-line questionnaire which should take no more than one hour to complete.

You may be invited to participate in a follow-up session which will also take approximately one hour. This will take the form of a discussion, and it will take place on MS Teams.

7 **What will happen to me if I take part?**

The first thing to happen will be the completion of a questionnaire. A link to the questionnaire will be emailed to you and you will confirm that you are happy to take part in that stage within the questionnaire.

If you are selected for the follow up section of this study, and you agree to participate, you will take part in an interview over using MS Teams. You will sign a form to confirm that you are happy to participate.

8 **What are the possible disadvantages, risks, or side effects of taking part?**

The disadvantages to you of participating are that you will commit your time to complete the questionnaire, and you may commit further time by participating in an on-line interview.

9 **What are the possible benefits of taking part?**

The process may highlight areas of your work that you are working well as well as areas that could be further developed.

10 **How will my taking part in this study be kept confidential?**

Your name and place of work will be anonymized so that you cannot be identified.

11 **Audio-visual material**

If you participate in the on-line interview using MS Teams, a recording of the session will be made. The recording will not be shared with anyone.

12 **What will happen to the data collected within this study?**

- The data collected will be stored electronically, in a password-protected environment, for approximately nine months, after which time it will be destroyed under secure conditions (no later than December 2025).
- The data will be anonymized prior to storage.
- The data will not be transmitted/displayed.

13 **Will the data be required for use in further studies?**

The data will not be used in any further studies.

14 **Who has reviewed this study?**

University of Hertfordshire UH Ethics Committee

This study has been reviewed by:
The University of Hertfordshire Social Sciences, Arts and Humanities Ethics Committee with Delegated Authority.

The UH protocol number is cSLE/PGT/UH/06198.

15 **Factors that might put others at risk**

Please note that if, during the study, any medical conditions or non-medical circumstances such as unlawful activity become apparent that might or had put others at risk, the University may refer the matter to the appropriate authorities and, under such circumstances, you will be withdrawn from the study.

16 **Who can I contact if I have any questions?**

If you would like further information or would like to discuss any details personally, please get in touch with me by email: Sarah Davis, s.davis@maryhare.org.uk.
Additionally, my supervisor's contact details are: Joy Rosenberg, j.rosenberg@maryhare.org.uk.

Although we hope it is not the case, if you have any complaints or concerns about any aspect of the way you have been approached or treated during the course of this study, please write to the University's Secretary and Registrar at the following address:

Secretary and Registrar
University of Hertfordshire
College Lane
Hatfield
Herts
AL10 9AB

Thank you very much for reading this information and giving consideration to taking part in this study.

Appendix IV – Online survey

Educational Audiology - perceptions of multidisciplinary working

Please read the following information carefully.

You are being invited to complete an online survey as part of a Master's course being undertaken by Sarah Davis, an Educational Audiology student at Mary Hare courses partnered with University of Hertfordshire, UK.
Please read the following information carefully before deciding whether to take part. Please ask if there is anything that is not clear or if you would like more information.
You are eligible to take part in this study if you are a fully qualified Educational Audiologist working for a local authority in England.

The Study

The purpose of the study is to investigate the current practices and challenges of multi-disciplinary working in educational audiology.

What does taking part involve?

If you agree to take part in this study, you will be asked to complete an online survey/questionnaire. This survey/questionnaire will ask about your current role and responsibilities and your perceptions of the effectiveness of multi-disciplinary working in relation to that role and it will take you approximately 30 minutes to complete.

Do I have to take part?

No. It is up to you to decide whether or not to take part. You are free to withdraw from the study at any time and without giving a reason. If you choose not to take part, you do not need to do anything further.

Are there any benefits or risks for me if I take part?

You may not directly benefit from this research; however, we hope that your participation in the study may help to identify best practices for enhancing multi-disciplinary working in Educational Audiology. There are no expected risks for participants. Any data that you provide will be treated as confidential and the questionnaire is anonymous.
All data from the study will be stored securely on my university One Drive cloud storage system which only I have access to and will be deleted after exam board (expected to be no later than end August 2025).

What will happen to the findings of this study?

The findings will be used to produce data to answer my research questions.

Has this study received ethical approval?

This study has been approved by the University of Hertfordshire Social Sciences, Arts and Humanities, Ethics Committee with Delegated Authority (SSAH ECDA). The Ethics Protocol number for this study is cSLE/PGT/UH/06198.
If you would like to receive more information and for any other queries about this project you can contact me by email (s.davis@maryhare.org.uk) or my Supervisor, Joy Rosenberg (j.rosenberg@maryhare.org.uk)
Although we hope it is not the case, if you have any complaints or concerns about any aspect of the way you have been approached or treated during the course of this study, please write to the University's Secretary and Registrar at the following address:

Secretary and Registrar, University of Hertfordshire, College Lane, Hatfield, Hertfordshire. AL10 9AB. United Kingdom

If you do not wish to participate in this survey, just close your browser.

If you are interested in taking part, please read the statements below and then click 'yes' to record your consent to participate.

· I confirm that I have read the study information. I have had the opportunity to consider the information and ask questions. Any questions have been answered satisfactorily

· I understand that my participation is voluntary, and I am free to withdraw from the study at any time without giving a reason

· I am 18 or over *

- ◯ Yes
- ◯ No

Demographics

Name (optional):

Job title / position: *

Local Authority (this will be anonymised and is for comparison purposes only): *

Years of experience in Educational Audiology: *

Do you have specific time allocated to your role as an Educational Audiologist? (Detail the proportion of time allocated) *

What was your route to becoming an Educational Audiologist? *

- ◯ Qualified Teacher of Deaf Children and Young People
- ◯ Clinical Audiologist
- ◯ Audiological Technician
- ◯ Other

What settings do you typically work in (e.g. schools / clinic)? *

Do you participate in any joint clinics with your local paediatric audiology team? (please provide some information) *

Section 2: Role in Multidisciplinary Teams

In your role as an Educational Audiologist, how would you define multidisciplinary working? *

How frequently do you work within a multidisciplinary team? *

- [ ] Daily
- [ ] Weekly
- [ ] Monthly
- [ ] Rarely
- [ ] Never
- [ ] Other

Please provide more information

Which members of the multidisciplinary teams do you typically work with? (Select all that apply) *

- [ ] Audiology
- [ ] School staff
- [ ] Speech and language therapists
- [ ] Deaf CAMHS
- [ ] Occupational therapists
- [ ] Qualified teachers of visual impairment
- [ ] Qualified teachers of multisensory impairment
- [ ] Other

Please provide more information

What is your primary role within these teams? *

What skills (if anything), do you feel your training as an Educational Audiologist does to enhance your ability to add value from within a multidisciplinary team? *

The following is a list of tasks that an Educational Audiologist might undertake. Please indicate if you complete each of these tasks in isolation, as part of the direct team supporting deaf children and young people (i.e. your team within a specialist school, resource base or advisory service), or as part of a wider multi-disciplinary team. *

Facilitate listening

- [ ] In isolation
- [ ] As part of the direct team supporting deaf children and young people
- [ ] As part of a wider multidisciplinary team
- [ ] N/A - I don't do this
- [ ] Other

Facilitate learning

- [ ] In isolation
- [ ] As part of the direct team supporting deaf children and young people
- [ ] As part of a wider multidisciplinary team
- [ ] N/A - I don't do this
- [ ] Other

Facilitate communication access

- [ ] In isolation
- [ ] As part of the direct team supporting deaf children and young people
- [ ] As part of a wider multidisciplinary team
- [ ] N/A - I don't do this
- [ ] Other

Complete specialised assessments

- [ ] In isolation
- [ ] As part of the direct team supporting deaf children and young people
- [ ] As part of a wider multidisciplinary team
- [ ] N/A - I don't do this
- [ ] Other

Monitor personal hearing instruments

- [ ] In isolation
- [ ] As part of the direct team supporting deaf children and young people
- [ ] As part of a wider multidisciplinary team
- [ ] N/A - I don't do this
- [ ] Other

Recommend assistive listening technologies

- [ ] In isolation
- [ ] As part of the direct team supporting deaf children and young people
- [ ] As part of a wider multidisciplinary team
- [ ] N/A - I don't do this
- [ ] Other

Fit assistive listening technologies

- [ ] In isolation
- [ ] As part of the direct team supporting deaf children and young people
- [ ] As part of a wider multidisciplinary team
- [ ] N/A - I don't do this
- [ ] Other

Manage assistive listening technologies

- [ ] In isolation
- [ ] As part of the direct team supporting deaf children and young people
- [ ] As part of a wider multidisciplinary team
- [ ] N/A - I don't do this
- [ ] Other

Provide/recommend support services

- [ ] In isolation
- [ ] As part of the direct team supporting deaf children and young people
- [ ] As part of a wider multidisciplinary team
- [ ] N/A - I don't do this
- [ ] Other

Provide/recommend resources

- [ ] In isolation
- [ ] As part of the direct team supporting deaf children and young people
- [ ] As part of a wider multidisciplinary team
- [ ] N/A - I don't do this
- [ ] Other

Advocate on behalf of students

- [ ] In isolation
- [ ] As part of the direct team supporting deaf children and young people
- [ ] As part of a wider multidisciplinary team
- [ ] N/A - I don't do this
- [ ] Other

Section 3: Perceptions of success

On a scale of 1 to 5 (with 1 being the lowest and 5 being the highest), how successful do you feel multidisciplinary collaboration is in achieving best outcomes for families and children and young people? *

- ◯ 5
- ◯ 4
- ◯ 3
- ◯ 2
- ◯ 1

Please explain your answer to the previous question.

*

What are the primary benefits you have observed from multidisciplinary working? (Select all that apply)

*

- ☐ Improved outcomes
- ☐ Enhanced communication among professionals
- ☐ More comprehensive care
- ☐ Greater access to resources
- ☐ Professional development and learning
- ☐ Other

Please expand on your answer to the previous question. *

What challenges have you encountered in multidisciplinary teams? (Select all that apply)

*

- [ ] Communication issues
- [ ] Differing professional opinions or approaches
- [ ] Time constraints
- [ ] Lack of clear roles and responsibilities
- [ ] Limited resources or support
- [ ] Other

Please expand on your answer to the previous question. *

How can the effectiveness of multidisciplinary teams be improved in your opinion? (Select all that apply) *

- [ ] Better communication strategies
- [ ] More structured meetings and documentation
- [ ] Increased training for team members
- [ ] Clearly defined roles and responsibilities
- [ ] Enhanced coordination of care
- [ ] Other

Please expand on your answer to the previous question. *

Do you follow any guidelines relating to working in multidisciplinary teams? *

- ◯ Yes
- ◯ No
- ◯ Sometimes

Please expand on your answer to the previous question. *

Do you have any additional comments or suggestions regarding multidisciplinary working in Educational Audiology? *

Appendix V – Semi structured interview schedule

Interview Schedule: Understanding the Role of Educational Audiologists in a Multidisciplinary Team

Thanks for signing form and for time

Explain the purpose of the interview – understand the role of the Educational Audiologist as part of a MDT

Emphasise confidentiality and how the information will be used.

1. Can you briefly describe your role as an Educational Audiologist?

2. As an Educational Audiologist, what additional skills do feel you bring to the multidisciplinary team?

Multidisciplinary Team (MDT) Structure and Collaboration

Team Composition:

3. You stated that you typically work with [members of team]. How is the team structured or organised?

Roles and Responsibilities:

4. You mentioned that you are a facilitator between services. Can you expand on this? Can you describe your specific responsibilities within the team?

Frequency and Nature of Interactions:

5. How often do you meet or communicate with other members of the team?

6. In what ways do you typically collaborate with others (e.g. formal meetings, informal discussions, shared reports)?

3. Assessment and Intervention Process

Role in Assessments:

7. You said that you do some joint clinics – can you tell me more about that? (How do you contribute to the assessment of children with hearing impairments?)

8. You specifically mentioned children with complex needs – can you expand on that?

9. Can you describe how you work with other team members during this process?

These questions relate to Q18 on the survey – you said that you sometimes worked in isolation / as part of a direct team and as part of the wider MDT for a range of things (look at sheet). These next questions hope to get you to think about this a little more.

Developing Individual Education Plans (IEPs):

10. What is your role in developing IEPs or other educational plans (e.g. EHCPs) for students?

11. How do you ensure that your input is integrated into the overall educational approach?

Interventions and Support Strategies:

What interventions do you typically recommend or implement?

How do you collaborate with other professionals to ensure the interventions are holistic and effective?

Challenges and Successes in Multidisciplinary Work

Communication and Coordination:

You mentioned the challenges of working in an MDT as being communication issues, differing opinions or approaches, lack of clear roles and responsibilities and limited resources and support.

Can you tell me a little bit more about these challenges?

Can you give an example?

How do you address issues related to communication, conflicting opinions, or differing approaches?
(example from survey are not having a named Audiologist / Audiologist not understanding what an Educational Audiologist is/does).

Success Stories:

Can you share an example of a successful collaboration within the team that significantly benefited a student?

What do you believe contributed to the success of that case?

Less successful Stories:

Can you share an example of a less successful collaboration within the team where a student did not benefit from a multidisciplinary approach?

What do you believe contributed to the difficulties of that case?

5. Professional Development and Future Directions

Training and Development:

What training or skills do you think are important for effective collaboration within a multidisciplinary team?

How do you stay updated on best practices for multidisciplinary work?

Future of Multidisciplinary Work:

How do you see the role of Educational Audiologists evolving within multidisciplinary teams?

What improvements would you like to see in how teams collaborate in supporting families and children and young people who are deaf?

(Q.25 better communication strategies / more structured meetings and documentation / clearly defined roles and responsibilities / enhanced coordination of care

Q.26. Need a named person, regular meetings in clinics)

6. Closing Remarks

Final Thoughts:

Is there anything else you would like to add about your experiences working in a multidisciplinary team?

Thanks and Next Steps:

Appendix VI – Initial coding map to inform interview schedule