Educational Audiologists: Exploring the Perspectives of Heads of Sensory Services in the UK

A study submitted in partial fulfilment of the requirements for the degree of Master of Science of the University of Hertfordshire

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Abbreviations

ALD	Assistive Listening Devices
AT	Audiology Technician
BATOD	British Association for Teachers of the Deaf
BAEA	British Association of Educational Audiologists
CHSWG	Children's Hearing Services Working Group
CPD	Continuing Professional Development
CRIDE	Consortium for Research of Deaf Children
CYPD	Children and Young People who are Deaf
CYP	Children and Young People
EA	Educational Audiologist
FTE	Full-time Equivalent
HA	Hearing Aids
HoSS	Heads of Sensory Service
LA	Local Authority
LP	Lead Professional
MDT	Multi-disciplinary Team
PN	Participant Number
QToD	Qualified Teacher of the Deaf or Teacher of Deaf
RCCP	Registration Council for Clinical Physiologists
SaLT	Speech and Language Therapist
SSC	Scottish Sensory Centre

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Abstract

The role of Educational Audiology in the UK has been present for half a century; however, it is inconsistently used, and many education services do not employ the role, or indeed see Educational Audiology as a part of their remit. This study used a mixed-methods approach to explore the perspectives of UK Heads of Sensory Services (HoSS) on barriers and enablers for the use of the role, how education services without an Educational Audiologist meet Children and Young People's (CYPD) audiological needs, and what sets the role of the Educational Audiologist apart from that of the Qualified Teachers of Deaf Children and Young People (QToD). Fifty-four (54) UK HoSS responded to an online survey, mainly disseminated through the HoSS Forum, with a sub-sample invited to semi-structured interviews.

The study found that the Educational Audiologist role is not used equitably across the UK. The role's benefits are insufficiently understood by decision-makers within local authorities. Some services had succession planning in place, and others stated that previous Educational Audiologists were not replaced once they retired or moved on.

The role works well when it is in a co-ordinating, supporting and training capacity and not as an isolated expert. This study found that confidence levels vary in both types of services, with some QToDs more capable of undertaking audiological tasks than others. The role of the Educational Audiologist has been key in upskilling teams of QToDs in services that have an Educational Audiologist. Conversely, some services that did not have an Educational Audiologist possessed good audiological skills and links with health services due to how their service has operated historically.

It is clear from this study that sensory services are subject to budget constraints that can hinder the quantity and quality of Continuing Professional Development (CPD) opportunities, audiological resources, and headcount. Most HoSS without Educational Audiologists said that they would like an Educational Audiologist if there were no constraints. Services are receptive to the role of empowering and upskilling QToDs that strengthen service delivery with families, settings, and relationships with health services to raise the outcomes for CYPD.

1. Introduction

Educational Audiology in the UK has existed in some capacity since the 1950s (Tucker & Nolan, 1984), when deaf educators identified a need for a better understanding of paediatric audiology. Educational Audiologists have worked across a range of settings, including health services, NHS Audiology, local authority sensory services, and schools. However, CRIDE data shows that more than half of local authorities in the UK do not employ one, and previous studies show that the use of the role is variable in the UK, with some sensory services having never employed an Educational Audiologist.

This research study explores the perspectives of Heads of Sensory Services (HoSS) on the role of Educational Audiology in the UK. The study comprises two phases – an online survey and semi-structured interviews. The survey phase consists of two sets of questions aimed (i) at services that employ an Educational Audiologist, and (ii) at services that do not employ one. The survey aims to capture how both groups of services operate and facilitate the audiological aspects of the role of Educational Audiology. The semi-structured interviews provide an opportunity to further capture the opinions and experiences of HoSS that volunteer to participate.

The research study is split into four main sections. First, a literature review to find out what is already known about the role of Educational Audiology, secondly a methodology section that explains methods used in the research study, third, a section to report on the outcomes of the research study, and lastly, a discussion of the findings.

2. Literature Review

2.1 Introduction

This literature review explores what is already known about the role of the Educational Audiologist (EA) in the UK and beyond. There are four main sections – the role of the Educational Audiologist, core competencies of the specialism of Educational Audiology, how the role fits in with local authorities in the UK, and the justification for this research study.

2.1.1 Search Methodology

Initially, the researcher used SCOPUS to search for literature that has been published on Educational Audiology. Results from the search terms “education audiology” and “educational audiologist” returned **391** and **202** results respectively. Filtering down the searches to the last ten years, reduced the results to **164** and **96**, but many of these hits were not relevant to the topic. Secondary document searches narrowed the results down to 26. Further searches were performed using a range of terms - “audiologist in education”, “audiologist in schools”, “advanced teacher of the deaf”, “audiology + teacher of the deaf”, “teacher of the deaf + technology”, “paediatric habilitation + audiology”, “school-based audiology”, and “school-based audiologists”.

The term “school-based audiologists” showed nine results, but these were not relevant to the research study. “School-based audiology” generated fifteen results with two of them relevant to the research study.

The term “educational audiologist” brought back nearly 20,000 results on Google Scholar, and 800+ hits when filtered to the last ten years. Google Scholar enabled the researcher to search through several journals. This resulted in a combination of primary and secondary peer-reviewed papers. The researcher also explored relevant websites including MESH Guides, the British Association of Educational Audiologists (BAEA), and the British Association for the Teachers of the Deaf (BATOD) for Educational Audiology-related articles to build a clearer picture of the role. The MESH Guides website was a good source that signposted to the literature on Educational Audiology over the years. The University of Hertfordshire and Mary Hare Online libraries were used to locate the articles. The researcher found a book entitled

‘Educational Audiology’ by Tucker and Nolan (1984), which outlined the history of Educational Audiology in the UK.

2.1.2 Limitations to Literature Search Methodology

Most of the literature and research on Educational Audiology comes from the USA with only a small number covering the UK. Articles from periodicals and dedicated websites with information about the role were more prevalent. There is a need for more UK-focused research around the role of Educational Audiology. The researcher could not find any previous research on local authorities and their sensory services. There was no literature on the role that Heads of Sensory Services (HoSS) play within local authorities.

2.2 What is Educational Audiology?

An Educational Audiologist’s main role is the management of audiological equipment in an education setting. Johnson & Seaton (2020) add that they may also hold responsibilities as a service co-ordinator, instructional team member and/or consultant. Educational Audiologists generally support children from birth until they leave school. The role bridges the gap between health, education, and families (Rosenberg, 2017). With unique training, focused on audiology in education, Educational Audiologists have the high level of skills and knowledge necessary to facilitate children and young people who are deaf (CYPD), their families and their educational setting to enable informed choice about technology, provision, and support (www.meshguides.org). The role includes ensuring that access to communication and learning in the classroom is in place to improve outcomes for CYPD (EAA, 2015).

Educational Audiology practices (such as job descriptions and employment conditions) vary from state to state in the USA (Johnson & Seaton, 2020) and this is similar in the UK as shown in the research by Ash (2021), despite the existence of guidance from the British Association of Educational Audiologists (BAEA) on roles and competencies for Educational Audiologists. The definition of the role of an Educational Audiologist has not changed over the years. Tucker and Nolan (1984) describe this as one that is involved from the initial assessment and ongoing through audiological management, decision-making about educational placement, and fitting of assistive

listening devices for CYPD. They also emphasise collaborative working with other professionals around the CYPD. Educational Audiologists were also responsible for the training of health visitors, who would undertake the initial screening for hearing loss. Tucker and Nolan (1984) also state that the role of the Educational Audiologist in the USA includes the preparation of Individualised Education Programmes (IEP) for the CYPD.

Thomas J. Watson, in the foreword to Tucker and Nolan (1984), wrote that the Educational Audiologist's role was to enable CYPD to receive early and high-quality listening experiences and to empower their family with the knowledge they need to support their child in reaching their optimal psychological, social, and language development. He also states the importance of early diagnosis and the provision of personal amplification for optimal outcomes as well as the need for early and appropriate counselling for families. Watson also states that families should be coached in how they may contribute to their child's language development, as well as understanding the additional issues faced by a child with hearing loss. Similarly, Johnson and Seaton (2020) describe the role of an Educational Audiologist as a service coordinator and consultant in addition to managing the audiological aspects of CYPD. However, they state that this role is either underused or not fully understood by families and education services.

2.2.1 History of Educational Audiology

The role of Educational Audiology was first recognised in 1975, in the USA, in the Education of All Handicapped Children's Act (Marconi-Hutkay, 2015). This is now the Individuals with Disabilities Education Act (IDEA, 2022). Johnson and Seaton (2020) state that the first definition of Educational Audiology was proposed by Berg and Fletcher in 1976. The Educational Audiology Association (EAA) was formed in 1978 and has continued to support and provide guidance to Educational Audiologists (Marconi-Hutkay, 2015). The EAA has continued to guide Educational Audiology in the USA.

The University of Manchester (UK) implemented the first Diploma in Audiology in 1958 (Tucker and Nolan, 1984), and although not named 'Educational Audiology', it had a

strong focus on audiology in education. This course attracted students from all over the UK and beyond due to its unique content.

2.2.2 Educational Audiology Around the World

Educational Audiology varies around the world, with most of the research originating in the USA (Ash, 2021). MESH Guides (www.meshguides.org) states that Educational Audiology or school-based audiology has only been written about in the USA, UK, Brazil, South Africa, Australia, Canada, and Europe. Knoor et al. (2019) researched deaf education provision outside the Western world. This included several countries from Africa, South America, Asia, and some countries in Europe that were considered to still be developing in terms of their provision for children with hearing loss. Overall, they found that deaf education is not yet fully developed, with many teaching positions in special schools filled with underachieving teachers. Teacher of the Deaf (ToD) training was also considered to be of very poor quality.

In the USA, Educational Audiologists receive the same training (AuD – Audiology Doctor) that clinical audiologists receive (Johnson and Seaton, 2020), then choose to work as an educational or clinical audiologist. This means that one does not need to possess a qualification as a teacher or ToD. Audiology programmes did not include a placement in educational settings, which many Educational Audiologists highlighted would have been of benefit in the survey conducted by Seaton et al. (1994) to enable a better understanding of deaf education. This led to the Educational Audiology Association's "minimum competencies for Educational Audiologists" to include the recommendation that ALL audiologists employed in schools should complete a placement in an educational setting under the supervision of a qualified Educational Audiologist. American Speech-Language-Hearing Association (ASHA) and the Educational Audiology Association (EAA) recommend that there should be one full-time Educational Audiologist for every 10,000 children and young people (CYP), which stresses the importance of robust collaborative working between other services (e.g. Speech & Language Therapists), families, education settings, and clinical audiology (McNamara & Macione, 2011).

Johnson and Seaton (2020) suggest that there is a need for 3,785 more audiologists in USA schools. Ash (2021) in his research study suggested that there are 715 CYPDs

for every Educational Audiologist in the UK. The difference in allocation between UK and USA is significant, yet more than half of the UK local authorities do not employ the role of the Educational Audiologist (CRIDE, 2021).

2.2.3 Educational Audiology in the UK

Educational Audiology in the UK dates to 'The Education Act 1970', in which states that educational authorities will assume responsibility for employing specialists for 'disabled' children (www.meshguides.org).

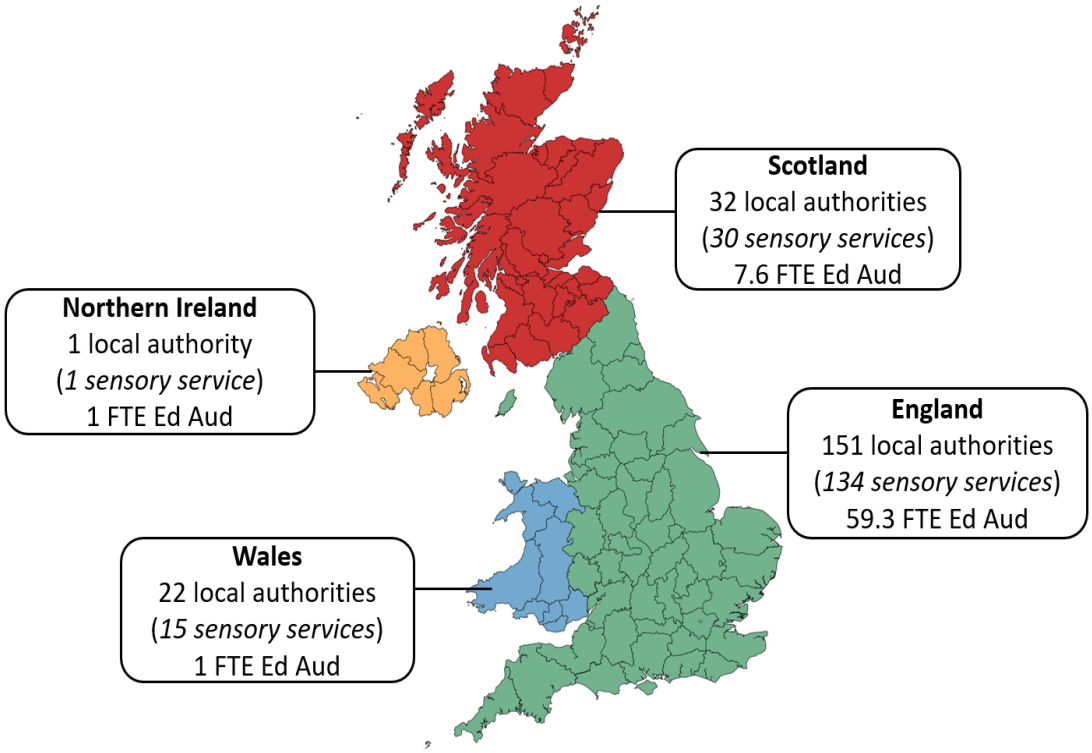
The University of Manchester offered a Bachelor of Education in Audiology and Deaf Education in 1967, and then a Master of Education in Audiology in 1972 (Dawes, 2019). Their Department of Audiology and Education of the Deaf ran a Master of Education (M. Ed) and Diploma in Audiology (University of Manchester Faculty of Education Prospectus, 1980-81) where Qualified Teachers of the Deaf (QToDs), speech and language therapists, psychologists and registered medical practitioners could train as an Educational Audiologist, but the course was not called Educational Audiology. The purpose was to enable these professionals to work as audiologists in local education authorities, audiology clinics, public health departments, and schools for the deaf. This course was later changed to a Master of Science in Educational Audiology around 1992 (Dawes, 2019).

In 2001, the university combined its three Masters' programmes (Audiology, Audiological Medicine, and Educational Audiology) into one Master of Science in Audiology. The Educational Audiology components of the course were discontinued. Mary Hare Training Courses, in conjunction with the University of Hertfordshire, and previously with Oxford Brookes University, have facilitated the course since the late 1990s (Rosenberg, 2018b). The former CEO of the courses at Mary Hare states that the Educational Audiology course started in September 1999 (www.maryhare.org.uk).

Following the formation of the BAEA in 1997, Blake (2022) reported that a 1998 survey showed that 84 qualified teachers of the deaf (QToDs) had an additional audiology qualification, of which only 68 were working in the role of Educational Audiologist. The number of Educational Audiologists in service has not increased over the years and numbers remain low and almost non-existent in some regions of the UK (CRIDE,

2021). According to Ash (2021), the role and responsibilities differ depending on the region/ local authority they work for.

There are 206 local authorities in the UK according to the CRIDE survey (see Figure 1 for the breakdown for the four UK countries). England has recorded 59.3 Educational Audiologists (CRIDE, 2021) in posts across sensory services and settings. About one-third of local authorities have this post in England, but Ash (2021) highlighted that some local authorities share Educational Audiologists (Table 1). According to the CRIDE survey (2021), there are about 180 sensory services in the UK, covering all 206 local authorities. The CRIDE survey shows that it is mainly QToDs that hold the additional qualification of Educational Audiology, but this may change moving forward as the course now allows other deaf education professionals, based on relevant experiences, to take the qualification (Blake, 2022). Clinical audiologists are now also able to take stand-alone modules to have a better understanding of the educational aspects of the course (Rosenberg & Bull, 2020).



Map created using MapChart 2023 (https://www.mapchart.net/uk.html)

Figure 1 - Number of LAs and sensory services, showing full-time equivalent (FTE) EAs by countries of the UK.

The research study by Ash (2021) showed that some regions of England appear to have Educational Audiologists in most of their local authorities (East Midlands, South-West, West Midlands, and Yorkshire & Humber) and some regions have a very small number in their local authorities (London, North-East and North-West).

Table 1 - Number of Educational Audiologists by regions of England (Ash, 2021)

Regions in England	No. of LA	No. of LA with EA
East of England	11	5 (46%)
East Midlands	9	6 (67%)
London	33	10 (31%)
North-East	12	1 (8%)
North-West	23	6 (26%)
South-East	19	7 (37%)
South-West	15	14 (93%)
West Midlands	14	9 (64%)
Yorkshire and the Humber	15	10 (67%)
	151	**68 (45%)**

2.3 Core Competencies of the Specialism of Educational Audiology

Clinical audiologists often do not possess education knowledge and only know what families and CYPD report to them (Marlatt, 2014). Educational Audiologists are equipped with knowledge about clinical audiology and education. With the emergence of collaborative working and joint clinics, UK Educational Audiologists may be exposed to a good balance of clinical and educational skills and experience. A quality improvement study by Sapp et al. (2021) piloted expanding the role of Educational Audiologists by providing specialist equipment to enhance the quality and timeliness of the diagnosis of CYPD. Their findings were that infants and their families had timely and better access to the initial hearing evaluation.

2.3.1 The BAEA Roles and Competencies

Following the formation of the BAEA 25 years ago, the founding members put together a guide that was launched in 2001, to enable more consistency in the role and responsibilities amongst local education authorities, and to raise awareness of the impact this role would have on deaf CYP in the UK (Blake, 2022). Ash (2021) found that there is still inconsistency in how educational audiologists work in different local authorities.

The responsibilities of the Educational Audiologist, as stated by the British Association for Educational Audiologists (BAEA), include:

1. Child and family support
2. Educational assessment
3. Advice to schools, access to learning and inclusion
4. In-service training to educational and health service professionals
5. Advice on amplification systems and classroom acoustics
6. Contribution to the multi-disciplinary team around the child
7. Audiological testing

(BAEA, 2016)

As Ash (2021) stated in his research, the roles of Qualified Teachers of the Deaf (QToD) and Educational Audiologists overlap. The Educational Audiology Association (EAA), which covers the USA, has clear guidelines that separate the roles and responsibilities of the QToD from the Educational Audiologist.

One of the most important achievements of the BAEA has been to secure professional registration for Educational Audiologists through the accreditation of the training course by the British Association of Audiology (BAA) (Blake, 2022). Educational Audiologists in the UK can also apply with the Registration Council for Clinical Physiologists (RCCP) upon completion of the course (Rosenberg, 2018b); (Rosenberg & Bull, 2020). The aim of securing this status is to continue to promote and protect the profession of Educational Audiology and to continue to improve multi-agency working. Collaborative working is a huge part of Educational Audiology to achieve the best outcomes for CYPD. Some of the reasons for this are that not all professionals working with CYPD possess knowledge and skills in deaf education, audiology, and communication in the classroom (Marconi-Hutkay, 2015).

2.4 How the Role Fits in with Local Authorities in the UK

Sixty-five local authority services have employed the role of the Educational Audiologist (CRIDE, 2021). At present the role is not mandatory (Rosenberg, 2017); (DfE, 2016). It may also be that Heads of Sensory Services (HoSS) are not fully aware of the nature of the role. A professionals' opinion survey conducted in 2017

(Rosenberg, 2018a) to gain views on Educational Audiology training showed that some of the reasons for low engagement were:

Table 2 - Reasons for no EAs in services from Rosenberg (2017)

Reasons	Number of respondents
Lack of funding	5
Lack of interest	3
Not a service priority	14

This was based on responses from sixteen HoSS so only captures a small proportion of local authorities. CRIDE (2021) reported that 70% (92 services) of HoSS in England were QToD and 30% (40 services) said they were from other disciplines. It is not clear from the CRIDE data whether another member of the senior leadership team, for example, a deputy, may possess QToD status. Northern Ireland has one big local authority and their HoSS is a QToD. In Scotland, the survey reports that 52% (13 services) of HoSS possessed qualifications as a ToD and 48% (12 services) of HoSS were not QToDs. Wales was recorded as having 47% of HoSS with QToD status (7 services) and 53% (8 services) from other professional backgrounds. In services that did not have a HoSS that was a QToD or Teacher of the Deaf in training, the job title/ role included:

- Qualified Teacher of Visually Impaired Children (QTVI)
- Early Years SEND and Advisory Services Manager
- Senior Multi-Sensory Impairment Specialist Teacher
- Specialist Education Lead for the Joint Communication Team (Speech Therapist)
- Special Educational Needs Manager
- Team Manager for Sensory and Physical Needs
- Lead for Specialist Teaching Advisory and Autism
- Educational Psychologist
- Managed by the school
- Area managers with specialisms including early years, ASD, MSI, VI
- Head of the Portage Service

2.4.1 Inclusion in Mainstream Schools for Children who are Deaf

There is a need for specialist support in mainstream schools as mainstream teachers often do not possess skills and knowledge in SEND. Johnson et al., (2014) suggest that schools see Educational Audiology as a diagnostic role and do not recognise the habilitative and collaborative elements it presents. With ever-changing practices in audiology and policies, they suggest that educational audiologists should be more vigilant to 'shifts' to continue advocating for CYPD to ensure their full potential is reached. More deaf children are encouraged to attend mainstream schools in the UK; Simkiss (2013) reminds us that deaf children continue to underachieve compared to their hearing peers. His paper highlights the educational audiologist as a key member of the multi-disciplinary team supporting the educational outcomes of CYPD in schools. Marlatt (2014) highlights that CYPD deserve the expertise, skills, and experience that roles like Educational Audiology contribute to the quality of education.

A study by Knickelbein and Richburg (2012) surveyed special educators' perspectives of educational audiologists' collaborative working and their basic audiological skills and knowledge. Seventy-three per cent of the special educators rated their basic audiology knowledge as low and were wary of supporting students with equipment. Nearly half the cohort rated collaborative working, where available, as very strong. From these studies, there appears to be an obvious necessity for collaborative working where CYPD are concerned so that the overall quality of educational provision they receive is good.

In another large-scale study by McCormick et al. (2011), 42 US states and over two-hundred speech-language pathologists were surveyed regarding collaborative working and support from educational audiologists. The consensus from 38 of the respondents that did not have access to an Educational Audiologist was that they had been left with additional audiological responsibilities, which they did not have sufficient skills and knowledge to undertake. This raises the question of whether local authorities are evaluating and setting appropriate service enhancements, which could potentially reduce some of the issues that CYPD in education, and their families experience.

2.5 Justification of this Research Study

This research study will explore UK local authorities' view on the role of the Educational Audiologist through the Heads of Sensory Services. There has been little research on Educational Audiology in the UK; it is hoped that this study will be useful in adding to evidence-based research. No studies were found on the structure and operation of local authorities and in particular, their sensory services, apart from CRIDE surveys.

Further research was suggested by Ash (2021) to investigate why the application of the role is so varied around the UK and to gather more information on why the role is not employed by more local authorities.

The MESH Guides on Educational Audiology highlight that further research would be beneficial for considering the role of Educational Audiology across local authorities. This study also explores why the role is not in place equitably across local authorities in the UK.

3. Methodology

3.1 Introduction

This section will discuss the different methods that were used at each stage of the research study.

This study focuses on what Heads of Sensory Services know about the role of the Educational Audiologist, how many Educational Audiologists are working in this discipline (some possess the qualification, but do not work in this capacity), and if the role is not employed by a local authority, what the reasons are. The study proposes to answer the following questions:

1. What are the barriers and enablers for LAs using an Educational Audiologist?
2. How are audiological competencies met by LAs that do not employ an Educational Audiologist?
3. What sets aside the role of the Educational Audiologist from the Teacher of the Deaf?

3.2 Literature Review of Methodologies

Data collection is defined as a process of gathering available information from different types of relevant sources to find solutions to an identified research problem, test hypotheses, and assess outcomes (Cohen et al., 2018). In addition, while data collection presupposes gathering information, analysis refers to its processing for getting beneficial insights.

Methods of data collection may be divided by whether data sources are primary or secondary (Johnston, 2017). Primary data collection implies gathering measurements and observations no one made before, for example, in the format of focus group discussions, participant observation, questionnaires, and interviews (Moser & Korstjens, 2018). In turn, secondary data collection presupposes the use of information in already published journals, newspapers, books, and online newspapers for its analysis.

At the same time, there are two main approaches to data collection according to the purpose of the research and the nature of the data – quantitative and qualitative. According to Rahman (2017), the “quantitative approach denotes amounting

something," which focuses on the collection of numerical data for measuring (p. 105). The quantitative approach is used when quantifiable and direct questions require answers (Goertzen, 2017). This method involves "systematic experimental analysis of observable phenomenon via statistical, mathematical or computational techniques in numerical form such as statistics, percentages, etc." (Mishra & Alok, 2017). In turn, a qualitative approach implies the collection of non-statistical and non-quantifiable data that incorporate various realities (Rahman, 2017). It may be individuals' emotions, feelings, experiences or cultural phenomena, social movements, the interaction between people, and organisational functioning. While one of these approaches is chosen on the characteristics of the research, studies may combine both.

3.3 Design Frame

Many types of design frames can help researchers develop their research studies, but the selection should be dependent on what will help to answer the research questions (Thomas, 2017).

3.3.1 Research Approach

This research study followed a mixed methods approach, which allows a researcher to use more than one method, a combination of qualitative and quantitative data within the same study (Cohen, Manion, & Morrison, 2018). Regnault et al. (2018) state in their paper that a mixed methods approach to research enables an in-depth and thorough approach to answering questions from different viewpoints. Using a mixed methods approach helps to triangulate data, increasing the reliability and validity of results (Cohen, Manion & Morrison, 2018, p.33). The study was aimed at a specific demographic, whose contribution to the study was based on their own experiences within their role as HoSS. To answer the research questions and considerations for timing constraints, a survey was necessary, and to further explore responses given in the survey, interviews were necessary.

Online survey is one of the more common methods for data collection (Cohen, Manion, & Morrison, 2018). In the present day, multiple companies, such as JISC, offer online survey tools for public sector organisations, education, and academic research (www.jisc.ac.uk/online-surveys). Online surveys may be regarded as an affordable and efficient tool that allows researchers to reach a considerable number of participants at once and collect data in a time-sensitive manner

(www.jisc.ac.uk/online-surveys). In addition, online surveys help attract more participants in comparison with other tools as it is more convenient due to accessibility from multiple devices (Thomas, 2017). However, this method strongly depends on participants' technological literacy and access to the Internet. Moreover, survey fraud is the most serious issue about online surveys as the reliability and validity of answers cannot be checked.

The use of semi-structured interviews is another method applied predominantly to qualitative research (Thomas, 2017). Due to its flexibility, it is convenient for both researchers and participants. At the same time, like online surveys, semi-structured interviews do not guarantee participants' honest answers. In addition, the analysis and comparison of data received from open-ended questions may be challenging.

Thus, to improve the quality of the research, data analysis with the use of software, for instance, NVivo, is applied. NVivo is especially beneficial for the analysis of qualitative data as it provides a structure that avoids time-consuming transcription (Dollah et al., 2017; Dhakal, 2022). It can analyse unstructured text, video and image materials, image data, social media, focus groups, interviews, and journal articles. At the same time, the use of NVivo may be challenging for inexperienced researchers, it may be vulnerable to system errors, and it cannot be applied to all types of research.

3.4 Participants

A purposive sampling method was used, selecting HoSS as the most likely to have the technical and strategic knowledge required for the study. Purposive sampling is a form of sampling where the researcher uses their judgement to select those most likely to possess the information needed (Etikan et al., 2016). Based on CRIDE (2021) data, it was anticipated that approximately 180 HoSS were covering UK sensory services from approximately 206 LAs. The researcher was optimistic that distributing the survey via the HoSS forum would be the most efficient approach to sharing widely and quickly, potentially reaching close to the full population of HoSS in the UK. The researcher communicated with the moderator of the forum to seek permission to disseminate the survey on the platform, and this was agreed. At the time of writing, there are 260 members registered on the HoSS forum, covering all sensory disciplines (NatSIP,

2022). The HoSS forum covers three disciplines – vision impairment (VI), hearing impairment (HI) and multisensory impairment (MSI), with members from the entire United Kingdom.

Rousseau (2022) confirmed that about 120 HoSS were representing CYPD on the forum at the last count. The remaining numbers include other sensory disciplines, previous or retired practitioners, and possibly practitioners who work in a lead professional role. Furthermore, Rousseau (2022) stated that the forum includes representation from the other disciplines within sensory services as well as retired and former HoSS. Due to this finding during the data collection stages, the researcher further disseminated the survey on other platforms relevant to deaf education. The requirement for participating in the research study was that one held the title of HoSS within their sensory service.

3.4.1 Ethics

Due to the nature of the data collection involving human participants, ethics approval was obtained (Ethics Approval Number: cSHE/PGT/UH/05743) from the University of Hertfordshire's Ethics Committee following the (BERA, 2018) guidelines (see appendix A). Forms EC3 and EC6 were completed to include in the survey and interview phases of the research study.

3.5 Data Collection

Data was captured using an online survey, which was disseminated predominately via the HoSS forum, an online space for HoSS around the UK to network and share information. The second phase of the study involved a follow-up 1:1 interview with ten HoSS participants using MS Teams.

3.5.1 Phase One: Survey

Response rates for surveys can be low, with 10% or more considered good (Van Mol, 2017). Studies have shown an increase in response rates if an anonymous survey method is used (Murdoch, et al., 2014). Online surveys have their advantages and disadvantages. It is a quick method for collecting data from a large population and

increased voluntary participation, but this could have an impact on the researcher gaining external validity from the population (Kılınç & Firat, 2017).

JISC survey software, approved by the University of Hertfordshire, was used to create the survey. Two sets of questions were created, directed respectively at services with (see appendix C) and without (see appendix D) an Educational Audiologist. Questions were organised and routed so that all participants answered the first five questions, covering general service data around the geographical region of the service, the professional background of the HoSS participant, number of CYPD on the service caseload, before routing to the set of questions relating to whether (i) they employed or (ii) did not employ an Educational Audiologist in their service.

Table 3 – The aim of what the survey proposed to find out for both HoSS groups

HoSS Group	Summary of questions themes covered in the research study
Services **with** Educational Audiologist(s) in Service Structure	This group of HoSS was asked questions to capture how the EA fits within the team, how long they have been employing one, whether the role is part of the service structure and the benefits of having one within the team.
Services **without** an Educational Audiologist in Service Structure	This group of HoSS was asked questions to capture how audiology is co-ordinated within the team, whether an EA has been part of their team in the past and why they do not have an EA within their service.

The survey questions needed to be constructed carefully to enable accurate measurements of what the survey was intended to find out (Artino Jr et al., 2014). Studies have shown that poor survey design and questions may impact the validity and reliability of the survey (Artino, 2017).

Piloting a survey is important to ensure that it is robust and fit for purpose (Wardropper et al., 2021) hence, a pilot survey was conducted involving nine volunteers. Pilot participants were asked to test the navigation, accuracy, timeliness, and question formation. Feedback from the pilot was generally positive with some suggestions for improvement to questions and survey navigation. The pilot survey anticipated that the survey would take approximately ten minutes to complete.

Following the initial dissemination of the survey via the HoSS Forum, the researcher initiated additional reminders to the population, as this is effective in increasing response rates (Van Mol, 2017). The researcher then asked for permission from forum moderators for the survey to be shared through the BATOD news feed, Scottish Sensory Service and BAEA email dissemination to increase response numbers. Responses by week can be seen below in Table 4:

Table 4 - Number and percentages of respondents by week the survey was open.

Timeline	No. of responses	% Of HoSS UK-Wide (180)	% HoSS Forum total (120)
Week 1	26	14%	22%
Week 2	15	8%	13%
Week 3	13	7%	11%
Total	**54**	**30%**	**45%**

Following the closure of the survey, the data was exported in spreadsheet format (MS Excel) and saved securely. The data was then perused thoroughly to inform the next steps in the research study – the interviews.

3.5.2 Phase Two: Semi-Structured Interviews

Following the survey, participants who volunteered their contact information for a further phase in the form of a semi-structured interview were contacted. The researcher chose videoconferencing as the method for completing the interviews and this took precedence over telephone interviews as telephone interviews present barriers and challenges involving an inability to gauge one's non-verbal expressions and may hinder establishing a good rapport (Irvine, Drew, & Sainsbury, 2012). It is also not uncommon that the profession of deaf education would have individuals with hearing loss who would prefer video conferencing over telephone interactions (a good videoconferencing platform also allows for live captions, further helping individuals with hearing loss).

The purpose of interviews is not statistical but rather an opportunity to explore in greater depth the experiences of the participant (Smith & Sparkes, 2016). There is no one answer to the question 'how many people should be interviewed', as Smith & Sparkes (2016) suggest that interview numbers should be based on whatever it takes to answer research questions. Due to timing constraints, the researcher decided on a total of ten interview participants – five HoSS each from services with and without an Educational Audiologist, respectively. Another factor used in the selection was the geographical region of services to capture the experiences of HoSS from the various regions of England, Scotland, Wales, and Northern Ireland.

Another problem the researcher may encounter is not gaining a balanced sample of participants for interviews (volunteers from both services with and without an Educational Audiologist) to capture a variety of experiences and opinions. Participants that do not have an Educational Audiologist employed within their service might have viewed the research study as a threat and therefore not wanting to be subjected to further questioning. It was vital to capture the views of services that do not have an Educational Audiologist to understand the reasons behind this. The survey needed to draw the interest of the participants to engage in the interview phase.

3.6 Data Analysis

3.6.1 Quantitative Analysis

The survey produced a large amount of quantitative data, with additional quantitative data from the interview phase. The quantitative data was analysed and presented in tables and charts, using Microsoft Excel, to enable easier interpretation by the reader.

3.6.2 Qualitative Analysis

Electronic data analysis has long been associated with quantitative data, but with the evolution of technology, there are platforms for supporting the analysis of qualitative data today (Zamawe, 2015). NVivo (Lumivero, 2023) is data analysing software that is approved by the University of Hertfordshire and is accessible via the website. Its purpose is to support a researcher in organising and analysing large quantities of qualitative data (Thomas, 2017).

The researcher used NVivo to analyse qualitative data from the survey and interview recordings and transcripts conducted via videoconferencing. One of the functions of NVivo is that it can import files from a range of document types (e.g., MS Office files, images, and videos). Due to the nature of qualitative data, it must be managed correctly (Dhakal, 2022). The software is recommended for researchers who are familiar with coding and qualitative data analysis (Dhakal, 2022). Zamawe (2015) states that Computer Assisted Qualitative Data Analysis Software (CAQDAS) like NVivo does not analyse data, but rather supports a researcher in analysing their data.

The researcher extracted the qualitative data from JISC in spreadsheet format, organised by questions and what each participant said. These responses were grouped into the two survey groups (services with and without an Educational Audiologist) and uploaded to NVivo by questions. It was significantly more manageable analysing survey data as participants kept their responses brief. Interviews produce more data to analyse as participants can speak freely. The researcher created six main themes from the qualitative data received. From each of the main themes, sub-themes were created to further group the data (see Table 20). Each of the ten transcripts was uploaded to NVivo one at a time and relevant quotes were selected and arranged into the themes. Once all ten interviews were completed, the organised data was extracted into a spreadsheet.

3.6.3 Research Study Validity and Reliability

Qualitative research is often criticised for being vulnerable to the bias of the researcher, therefore reviewing the quality of the research is important for credibility (Noble & Smith, 2015).

This study was aimed at a specific demographic and considerations were made to ensure that bias was avoided in (a) the question design, (b) including both HoSS with and without an Educational Audiologist in the interview phase and (c) review and analysis of the data collected. There may also be bias stemming from who chooses to respond to the research study. The researcher considered whether some HoSS are more likely to respond than others, for example, by comparing the number of HoSS registered on the HoSS forum to the approximate number of HoSS that CRIDE data shows (120 and 180 respectively. HoSS who have QToD, or Educational Audiologist

backgrounds may be more likely to respond to the survey because the topic is one that they may have more understanding of.

There is also the issue of respondents completing the survey for their service when they do not hold the position of HoSS. There is no vetting process for joining the forum, and membership is dependent on the honesty of the member.

The question design for both the survey interview phases was piloted and reviewed by nine people from a variety of professional backgrounds to ensure that questions were fair to both groups of the study – the HoSS from services with and without an Educational Audiologist. The researcher was careful when reviewing the data collected to ensure that the opinions and experiences of all participants were treated fairly, and that raw data was unchanged. And finally, interviewing a percentage of participants that was likely to capture information from a wider geographical area. There were no volunteers from three regions of England for the interview phase (see Table 5). The interviews represent 19% of the population that completed the survey.

Table 5 - UK regional spread of survey and interview participants

Region of UK	**No. of HoSS respondents from Survey**		**HoSS Participants by UK Regions in Interview Phase**	**Remaining Interview Volunteers not used**
	Count	**%**	**Count**	**Count**
East of Eng	2	4%	0	0
East Midlands	6	11%	0	0
London	8	15%	0	0
N East	2	4%	1	0
N West	6	11%	1	0
S East	7	13%	2	3
S West	3	6%	1	0
W Midlands	6	11%	2	0
Yorkshire & Humber	4	7%	1	0
Scotland	8	15%	1	3
N Ireland	1	2%	1	0
Wales	1	2%	0	1
Total	**54**	**100%**	**10**	**7**

3.7 Reflexivity

As a QToD and Educational Audiologist embedded within a local authority service, and as a deaf individual, the researcher is aware that they will have an inherent bias in their views and experiences within the field. As such, the framing and phrasing of questions may skew towards expecting to find problems in sensory services that do not employ an Educational Audiologist, and analysis of the responses may be similarly biased. The researcher's identity was made clear to those who completed the research study, and data from both phases of the study was reviewed and analysed with an open and questioning mind.

Employing a reflexive approach and acknowledging how the researcher's background might be affected by it (Haynes 2012), both improve the credibility of their findings and enhances own their learning (Dodgson, 2019).

3.8 Section Summary

This section considered the research methods necessary to undertake the study and the steps that were taken to collect and analyse data. Furthermore, the researcher considered any bias that could impact the robustness of the study. A mixed-methods approach was used that produced quantitative and qualitative data using an online survey and semi-structured interviews. Microsoft Excel was used to analyse the quantitative data, and NVivo was used to support the analysis of the qualitative data.

4. Results

4.1 Introduction

This section will report on the data collected in both the survey and interview phases of the research study. Data were collected in two groups – one set of questions for the group of services *without an Educational Audiologist role* and the other set for services *with an Educational Audiologist role*. All survey participants were asked the same questions to start with to capture general information about their service. The semi-structured interviews were also divided into two groups, HoSS from services with an Educational Audiologist and Hoss from services without an Educational Audiologist.

4.1.1 Phase 1: Survey

The survey was open for 26 days, from November 23rd until December 18th, 2022. The total number of respondents was fifty-four (54), giving a 45% response rate. This response rate is based on the approximate number of HoSS registered on the 'HoSS Forum', which was 120 (Rousseau, 2022). Response rates measured against the approximate number of HoSS in the UK from CRIDE data, around 180, are still above the recommended 10%.

4.1.2 Phase 2: Semi-structured Interviews

Seventeen survey respondents agreed to a follow-up 1:1 semi-structured interview and shared their contact details, of whom the author selected ten to proceed. This number of interviews is considered sufficient to identify common themes (*Hagaman & Wutich, 2017*). Participants were selected based on the geographical area to have wider coverage of the different parts of the UK. The plan was to have an even number of participants from services that employed an Educational Audiologist and services that did not have an Educational Audiologist. Participants were also selected based on availability to fit in with the project schedule and to provide a mix of large and small services. Due to the above, four of the ten HOSS interviewed were from services that employed an Educational Audiologist, and six represented services that did not employ the role. Two out of the six HoSS interviewed from the latter group said that they possessed the Educational Audiologist qualification, but that they are not employed as an Educational Audiologist. Their role was advertised as "*ToD with interest in audiology*" or "*essential audiology knowledge*". All four HoSS from services

that employed an Educational Audiologist said they possessed the Educational Audiologist qualification.

4.2 Quantitative Analysis

4.2.1 Research Study Population Information

The following few sub-sections represent questions that were routed to both groups (HoSS from both services with and without an Educational Audiologist), covering responses from all fifty-four participants.

4.2.1.1 Representation Across the UK (Survey)

Survey responses were received from all countries and regions of the UK. The highest number of respondents came from Scotland and London (see Table 5 above for the geographic spread of respondents).

4.2.1.2 Professional Background of Participants (Survey)

The 54 HoSS who responded to the survey were asked to provide their professional background as a multiple-choice question, resulting in a total of 68 professional backgrounds being reported (Table 6 below). The vast majority (44 of the 54 respondents, or 81%) of the HoSS that responded to the research study were from a QToD background, with thirteen (24%) holding an Educational Audiologist qualification. Of the thirteen HoSS with Educational Audiologist backgrounds, twelve (86%) were also QToDs.

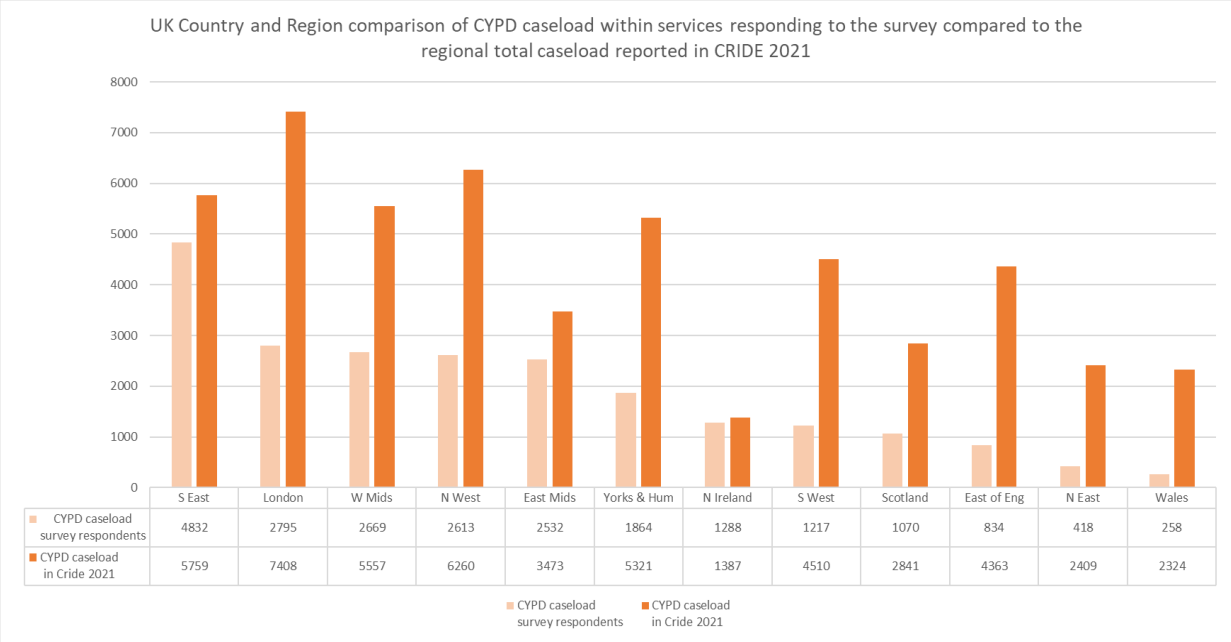
Table 6 – Respondents' Professional Backgrounds

Respondents' professional background	Number of respondents (% of respondents)	
QToD	44	81%
Ed Aud	13	24%
QTVI	4	7%
SEN teacher	2	4%
Lead teacher (non ToD)	2	4%
QTMSI	1	2%
Head teacher	1	2%
Occupational therapist	1	2%
Ed Psych	0	0%

4.2.1.3 Number of CYPD Represented (Survey)

The total of CYPD from caseloads across the 54 HoSS respondents was 22,390, or 43% of the total number of CYPD reported in CRIDE (2021). The service with the least number of CYPD was thirty-five (35), in a rural service in Scotland, and the largest number of CYPD in a setting was 1,288 in Northern Ireland (one service for the country). The average (mean) number of CYPDs across the 54 services was 415. The comparison of the number of CYPD reported by region by survey respondents to the total CYPD population reported in CRIDE 2021 is shown in Figure 2 below.

Figure 2 - Caseload by Region, this survey compared to data from CRIDE 2021



	S East	London	W Mids	N West	East Mids	Yorks & Hum	N Ireland	S West	Scotland	East of Eng	N East	Wales
CYPD caseload survey respondents	4832	2795	2669	2613	2532	1864	1288	1217	1070	834	418	258
CYPD caseload in Cride 2021	5759	7408	5557	6260	3473	5321	1387	4510	2841	4363	2409	2324

This highlights a regional disparity, with a relatively low level of survey response in Wales, Eastern England, and Northeastern England, compared to relatively high coverage in Southeastern England and Northern Ireland.

Participants were asked whether their caseload numbers included mild, unilateral, and unaided deafness and whether their service supported children with conductive deafness and auditory processing disorder. See Table 7 below for responses:

Table 7 - Additional types of deafness/ disorders covered by the service

Types of deafness/ disorders	Number of respondents that said CYPD receive support	Percent of total respondents that said CYPD receive support
Mild deafness	53	98%
Conductive deafness	51	94%
Unilateral deafness	50	93%
Unaided deafness	41	76%
Auditory processing disorder	31	57%

4.2.1.4 Educational Audiologist in Service

Thirty-one HoSS (57% of respondents) said they employ the role of an Educational Audiologist within their service or setting. Twenty-three (43% of respondents) said that they do not have the role of Educational Audiologist within their service. Three of the 31 services' Educational Audiologist has a Clinical Audiology background.

The remainder of the survey was routed depending on whether a service employed the role of Educational Audiologist or not. Responses from HoSS representing services with an Educational Audiologist are reported below in section 4.2.2 and its sub-sections. Responses from HoSS for services without an Educational Audiologist were routed to a separate set of questions, reported on below in section 4.2.3 and its sub-sections.

4.2.2 Services and Settings with an Educational Audiologist

Of the thirty-one (31) HOSS of services who employ an Educational Audiologist, eight (26%) reported that their service employed more than one Educational Audiologist. This included one trainee and early years specific Educational Audiologist. Seven of the services with two Educational Audiologists have large caseloads ranging from **595 to 1,288** children. Twenty-nine of the thirty-one services said that their Educational Audiologist's background is QToD, three have clinical audiology backgrounds and one was an Aud Tech before training as an Educational Audiologist. Twelve (39% of those with an Educational Audiologist) services said they have Aud Techs supporting their Educational Audiologist with audiological tasks.

4.2.2.1 Role of Educational Audiologist in Service Structure (services with EA)

Services that employ an Educational Audiologist were asked how long their service has had the role in their service structure. Table 8 below shows each response grouped by region as well as the proportion of responding services in that region that have an Educational Audiologist.

Table 8 - Number of years EA in service structure

Region of UK	Number of years EA position has been in place, by partipant service					Proportion of Participant Services that have EA, by Region
East of Eng	10	10				2 out of 2
East Mids	10	35	20	30	30	5 out of 6
London	10	25	3	25		4 out of 8
N East						0 out of 2
N West	25	40	3	7		4 out of 6
S East	15	22	30	1	10	5 out of 7
S West	20	30				2 out of 3
W Mids	2	18	2	10		4 out of 5
Yorks & Hum	15	20				2 out of 4
Scotland	11	10				2 out of 8
N Ireland	1					1 out of 1
Wales						0 out of 1

Participants were asked how many days per week their Educational Audiologist was allocated for their role. Ten out of the thirty-one services said their Educational Audiologist was full-time and covered five days per week, and nine said that their Educational Audiologist was allocated one day a week towards their role (see Table 9 below).

Table 9 – Amount of time allocated to the EA role

Amount of time allocated to EA role	Number of Participants	Percent of Participants
5 days per week	10	32%
4 days per week	1	3%
3 days per week	5	16%
2 days per week	2	6%
1 day per week	9	29%
Twice a year	1	3%
Other	3	10%

When asked about Aud Tech support within their service, eighteen of the thirty-one (58%) HOSS said that their service did not employ this role.

4.2.2.2 Educational Audiologist Skills and Competencies

A range of questions was asked to capture how the Educational Audiologist role is embedded within the services and what their role entails. These strands were taken from the BAEA roles and competencies (2016). Similar questions were asked to capture what separates the role of the Educational Audiologist from the QToD in services that employ Educational Audiologists. The following four tables show the responses on the responsibilities of the Educational Audiologists and QToDs from services and settings that employ Educational Audiologists (Table 10, Table 11, Table 12, and Table 13 below).

Table 10 - Number of Educational Audiologists that perform the following tasks as part their role.

Tasks performed by EAs	**No. of Services (% of Services with EA)**	
Fitting and transparency/ balancing of assisitve listening devices	25	**81%**
Classroom acoustic surveys	24	**77%**
Joint Clinics with hospital audiology	17	**55%**
Audiometry	9	**29%**
Otoscopy and ear mould impressions	8	**26%**
Involvement in Newborn Hearing Identification Programme	4	**13%**

Table 11 - Frequency of training delivery by Educational Audiologists to services' team

Frequency of EA delivering training to Services team	**No. of Services (% of Services with EA)**	
When necessary (e.g., new information/ technology)	23	**74%**
Termly	8	**26%**
Annually	1	**3%**
Monthly	1	**3%**
Never	1	**3%**

Table 12 - Expected roles and responsibilities from Educational Audiologists

Expected roles and responsibilities from EAs	No. of Services (% of Services with EA)	
Liaising with manufacturer representatives	28	**90%**
Contribution to service policies and protocols	27	**87%**
Advice on amplification systems and classroom acoustics	26	**84%**
Audiological testing	24	**77%**
Maintaining equipment and updating software of radio aid systems	23	**74%**
In-service training to education and health service professionals	21	**68%**
Advice to educational settings, access to learning and inclusion	20	**65%**
Contribution to multi-disciplinary team working around the child	20	**65%**
Contribution to budget management	20	**65%**
Child & family support (e.g. informed choice, counselling, intepreting info)	12	**39%**
Educational assessment (towards EHCP, progress and target setting)	11	**35%**
Hearing aid programming	8	**26%**

Table 13 - Expected roles and responsibilities from QToDs in services that employ Educational Audiologists

Expected roles and responsibilities from QToDs	No. of Services (% of Services with EA)	
Advice to educational settings, access to learning and inclusion	31	**100%**
In-service training to education and health service professionals	31	**100%**
Contribution to multi-disciplinary team working around the child	31	**100%**
Child & family support (e.g. informed choice, counselling, intepreting info)	30	**97%**
Educational assessment (towards EHCP, progress and target setting)	30	**97%**
Advice on amplification systems and classroom acoustics	30	**97%**
Troubleshooting equipment	30	**97%**
Finding solutions and selection of assistive listening devices	25	**81%**
Audiological testing	21	**68%**
Fitting solutions / selection of assistive listening devices	21	**68%**
Balancing/ transparency of assistive listening devices	21	**68%**
Maintaining equipment and updating software of radio aid systems	15	**48%**
Liaising with manufacturer representatives	9	**29%**
Contribution to budget management	2	**6%**

Twenty-three of the thirty-one participants said that their Educational Audiologist delivered training to the team when necessary. Only one participant said their Educational Audiologist did not deliver training.

4.2.2.3 Professional Memberships and Liaison Meetings (Services with EA)

The participants were asked whether their Educational Audiologist had professional memberships specific to Educational Audiologists. Seven of the thirty-one participants

said their Educational Audiologist did not hold any of the memberships stated (Table 14 below).

Table 14 - Memberships relating to Educational Audiologists

Type of membership	No. of Services (% of Services with EA)	
BAEA (British Association of Educational Audiologists)	20	**65%**
Regional groups for Ed Auds (MEAG, SEAG, NEAG, WINSEAG)	13	**42%**
No Memberships	7	**23%**
RCCP (The Registration Council for Clinical Physiologists)	4	**13%**

Table 15 below shows the various meetings that Educational Audiologists attend and how many of the participants said that their Educational Audiologist participated in them.

Table 15 - Meetings and liaisons attended by Educational Audiologists

Type of meeting/ liaison	No. of Services (% of Services with EA)	
CHSWG Meetings	26	**84%**
Hospital Audiology/ ENT Liaison Meetings	25	**81%**
BAEA regional meetings	15	**48%**
Cochlear Implant Liaison Meetings	15	**48%**
BAEA Annual General Meetings	9	**29%**

4.2.2.4 Impact of Educational Audiology on Services with EA

Participants were asked to measure the impact that their Educational Audiologist has had on their service. At least eighty-seven per cent (87%) of the HOSS rated the Educational Audiologist impact as excellent or good across the four areas covered (Table 16 below).

Table 16 – HoSS' perspective of the impact of Educational Audiologist on their service

EA Impact on Service				
Percent of services with EA	**Your team**	**DCYP & families**	**Educational Settings**	**Relationships with MDT**
Excellent	77%	71%	61%	58%
Good	16%	23%	26%	32%
Somewhat	6%	6%	13%	10%
Low/ no impact	0%	0%	0%	0%

4.2.3 Services without an Educational Audiologist

All twenty-three HoSS from services that did not employ an Educational Audiologist said they were aware of the role of an Educational Audiologist. Ten (43%) of these participants said that their service has previously employed the role of an Educational Audiologist, and thirteen (57%) said they have never employed the role of an Educational Audiologist. Two interview participants said that they held Educational Audiologist qualifications, but they are not paid to fulfil this role. One said that they had someone with an Educational Audiologist qualification, but the role was not in their service structure.

4.2.3.1 Co-ordination of Audiology within Services without EA

Five (22%) services from this cohort said that they had an audiology technician and 18 (78%) did not employ one. Five (22%) services said they engaged the services of an EA on an *ad hoc* basis. One interviewee mentioned that they ask for an Educational Audiologist to support them from a neighbouring local authority for a fee. One HoSS said their service always had an Educational Audiologist in the role of HoSS to coordinate audiology, but that their role is NOT 'Educational Audiologist'.

4.2.3.2 Audiology Skills in Services without EA

Table 17 shows who within the service takes on responsibility for each of a range of Educational Audiology tasks as per the BAEA roles and competencies document (2016), for services without an Educational Audiologist.

Table 17 - Audiology related expected roles and competencies

Expected roles and responsibilities related to audiology	HoSS		Lead Prof.		QToDs		Aud Tech		No one		Other	
	#	%	#	%	#	%	#	%	#	%	#	%
Child and family support (e.g., informed choice, counselling, intepreting info)	9	39%	8	35%	23	100%	1	4%	0	0%	5	22%
Educational assessment (towards EHCP, progress and target setting)	8	35%	8	35%	23	100%	0	0%	0	0%	1	4%
Advice to educational settings, access to learning and inclusion	9	39%	8	35%	23	100%	2	9%	0	0%	2	9%
In-service training to education and health service professionals	10	43%	9	39%	22	96%	3	13%	1	4%	1	4%
Advice on amplification systems and classroom acoustics	10	43%	8	35%	22	96%	4	17%	0	0%	3	13%
Contribution to multi-disciplinary team working around the child	9	39%	8	35%	23	100%	1	4%	0	0%	4	17%
Audiological Testing	6	26%	5	22%	14	61%	4	17%	3	13%	4	17%
Maintaining equipment and updating software of radio aid systems	5	22%	4	17%	15	65%	6	26%	2	9%	3	13%
Liaising with manufacturer representatives	7	30%	4	17%	11	48%	5	22%	1	4%	3	13%
Budget management	16	70%	6	26%	1	4%	0	0%	2	9%	3	13%
Audiology related policies and protocols	12	52%	8	35%	6	26%	2	9%	3	13%	3	13%

Another set of questions was asked specifically to whether QToDs perform practical audiology skills. Table 18 below shows the responses for each skillset:

Table 18 - Coverage of practical audiology tasks in services without an Educational Audiologist

Coverage of practical audiology tasks in services without an EA	Undertaken (by HoSS, QToD or Lead Professional)		Not Undertaken	
	Number of respondents	% of respondents	Number of respondents	% of respondents
Speech test of hearing	21	91%	2	9%
Joint clinics with hospital audiology	19	83%	4	17%
Fitting and transparency/ balancing of ALDs	19	83%	4	17%
Classroom Acoustic Surveys	18	78%	5	22%
Involvement in Newborn Hearing Screening	7	30%	16	70%
Audiometry (hearing test)	5	22%	18	78%
Otoscopy and ear mould impressions	4	17%	19	83%

Nineteen out of the twenty-three services (83%) said they did not perform otoscopy and ear mould impression taking. Four services (17%) perform this as part of their role.

Participants were asked if anyone in their service attends focused group meetings and membership meetings relating to Educational Audiology, as summarised in Table 19 below.

Table 19 - Memberships and liaison meetings

Memberships and liason meetings	Yes attend		Do not attend	
	Number of respondents	% of respondents	Number of respondents	% of respondents
CHSWG Meetings	22	96%	1	4%
Hospital Audiology Liaison Meetings	22	96%	1	4%
CI Liaison Meetings	20	87%	3	13%
BAEA Meetings	4	17%	19	83%

From this data, four participants said that someone within the team attends BAEA meetings – two from the group without an Educational Audiologist, where a Lead Professional and QToD attend. It is not known whether they are qualified Educational Audiologists, but do not hold this title within their service. The other two were from the group that employs an Educational Audiologist. CHSWG (Children's Hearing Services Working Groups), liaison meetings that bring together multi-disciplinary teams to work together on improving services for deaf children and their families (NDCS and NHS, 2019), appear to be well attended with only one participant declaring that there are no CHSWG meetings in their service area. One HoSS said that they attend all liaisons related to audiology and that they also possess the Educational Audiologist qualification. It was also noted that responsibility for organising liaison between education and health fell evenly amongst members of the team – HoSS, Lead Professional, QToD and Audiology Technician.

4.2.3.3 Reasons Why Educational Audiologist Role is Not Employed

There were various reasons why an Educational Audiologist role is not employed within services. The main reason was that QToDs take on audiological tasks and only one participant said that their service has never thought of including the role in their service structure, as shown in Figure 3 below.

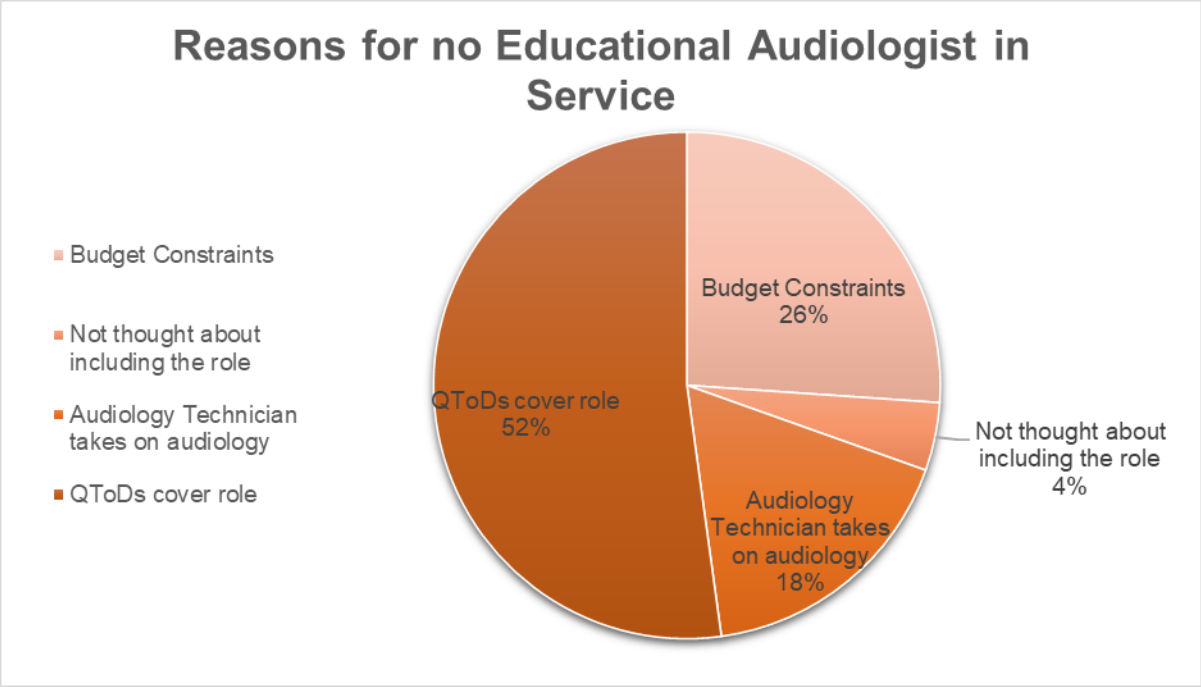


Figure 3 - Reasons for no Educational Audiology role in service

Sixteen HoSS (70%) said that they would want an Educational Audiologist if there were no resource constraints. **Seven** HoSS (30%) said that they do not want an Educational Audiologist as part of their service.

4.3 Qualitative Analysis

This section reports on the qualitative data collected from both the survey and semi-structured interview phases of the research study. Parts of the survey had open-set questions so that participants could contribute to the survey in their own words as well as include any information they wanted to share that the survey questions did not capture. Due to the nature of the data capture, quotes from services that employ and do not employ the role of Educational Audiologist are colour-coded in green and blue respectively. This data was analysed using NVivo software, which supported organising the themes into groups (*see Table 20 below*).

Table 20 - NVivo codes used to analyse data retrieved.

Count	**Main codes (themes)**	**Sub Codes (themes)**
1	Operational background of services	Service structure and audiology co-ordination
		Access to BAEA roles and competencies
		Audiology technician role
		Budgets
		Recruitment of EAs
2	Audiological skills	Classroom acoustic surveys
		EA knowledge and skills
		EA involvement in new caseload referrals
		Confidence levels of QToDs
3	Impact of audiology skills	EA impact on team, CYPD, settings and MDT
		Audiological strengths and weaknesses of services
		Benefits of Educational Audiology
4	Continuing professional development (CPD)	EA CPD to skill up
		Training and delivery by EA
		QToD CPD opportunities
5	Multi-disciplinary and joint working	Joint working with hospitals
		Relationships with clinical audiology
		Liaison with other sensory services
6	Service priorities	Future of Educational Audiology
		Succession Planning
		Audiology Equipment
		Training

4.3.1 The Operational Background of Both Service Types

4.3.1.1 Service Structure

Interview participants were selected from small and large local authorities. The general structures of services include a team of QToDs, with some services employing Educational Audiologists, Audiology Technicians (AT), or a QToD with responsibility for audiology co-ordination. Six of the HoSS interviewees held an Educational Audiologist qualification themselves, whether the role was 'employed' within the service or not. They took the lead for audiology but did not have sufficient time to coordinate audiology as they have general management duties. Below, in Table 21, are quotes from services that do not employ an Educational Audiologist and how audiology is co-ordinated:

Table 21 Co-ordination of audiology in services without Educational Audiologist

PN	Quotes - service structure and audiology co-ordination
3	We are a small local authority. I am an Ed Aud and take the lead for audiology but the service does not have the role of Ed Aud in the service structure.... [Name] from Ewing Foundation comes in once a term for three consecutive days. He goes out with us (one day for person) to sort out any audiological issues, checking equipment and training us on anything new, updates on technology. I do not have the time to manage all the audiology jobs as it isn't a separate role in the service. It just so happens that I am a qualified Ed Aud. (from interview)
5	My role is not recognised as an Ed Aud role, but rather someone to co-ordinate audiology and the LA has supported training. I use my management time to co-ordinate audiology. (from interview)
19	We have one of our ToDs, who did the audiology technicians course at her previous job, the Mary Hare course. [Pronoun] gets TLR for co-ordinating audiology within the team. Since I took over as HoSS, we have had a look at actual co-ordination, the candidacy, and the equity. [Pronoun] is brilliant in terms of managing the ordering and auditing and maintenance. But the sort of management and looking at the quality standards, that has not really happened. It is a work in progress. (from interview)
20	I do this as HoSS. We have regular meetings as a team and with SaLT to update on audiology. I do the audiology together with the technician. But the tech has now left. They were trained up on the job and had no formal training or qualifications. We are now looking for a new tech. It has been difficult finding one. (from interview)
37	I co-ordinate the audiology for our team. Our Ed Aud retired 8 years ago and was not replaced. [Pronoun] is a huge loss. Because of my interest in Audiology, I was given some time in my timetable to be the sole contact/link for Audiology. (from interview)
Responses are colour coded by service with or without EA	
	Response from HoSS in service with EA
	Response from HoSS in service without EA

Conversely, services that employ an Educational Audiologist who is responsible for co-ordinating audiology, face difficulties embedding the role within their service structure (Table 22 below).

Table 22 - Interviewed HoSS quotes on whether the role of EA is in their service structure

PN	Quotes on EA in service structure
25	Yes, we have often had two Ed Auds at the same time. (from interview)
54	In terms of Ed Aud, they had the role in the past then decided not to retain the role when that Ed Aud left. When I joined the service, the decision was made to have the role again. (from interview)
40	...we never had an Ed Aud before that. So when I took over as HoSS, I pushed for an Ed Aud. It is not a good model to leave Ed Auds to all the audiological jobs. (from interview)
28	This is still in discussion. We are trying to build it into the service structure for the future. I do 0.5 as manager and 0.5 Ed Aud now. The hope is that the role attracts a TLR and SEN 2 points. I would like to train another person in the team. (from interview)

Responses are colour coded by service with or without EA

	Response from HoSS in service with EA
	Response from HoSS in service without EA

In both service types, a small number of Audiology Technicians were part of the team and had specific tasks they completed or fully co-ordinated audiology within the team (see Table 23). One service, whose Audiology Technician left their post, was left without an audiology coordinator, and felt this has impacted service delivery as it was difficult to recruit technicians.

Table 23 – The role of AT in services

PN	Quotes on the role of Audiology Technicians
25	[Pronoun] job is to make the orders make orders, send invoices, pick up orders and then organise the packs ready to distribute to schools and the ToDs. The tech is meant to do basic checks to ensure everything is working, but me and the other Ed Aud do all in-depth checks. We give him a list of what we need to get ready and he will package everything ready for us to collect for fitting. He will sometimes post some things to schools. They have not had any formal audiology training. (from interview)
12	[Pronoun] is full-time and covers five days a week and does anything... building, bone conduction bands, fixing hearing aids, balancing, acoustic measurements, any of that kind of stuff... [they] does lots of training with people like Oticon and Phonak, and [pronoun] got big links with Ewing Foundation. We work very, very closely with the audiology team at the hospital, so [pronoun] part of a lot of their training and stuff as well. He has not has formal training. [Pronoun] has been with us a long time and worked alongside the Educational Audiologist before. We are thinking of bringing in an apprentice but not done this yet. The tech's background was [specific device] technology, so he is very knowledgeable. (from interview)

Responses are colour coded by service with or without EA

	Response from HoSS in service with EA
	Response from HoSS in service without EA

4.3.1.2 Service Considerations for Services without EA

Participants from both the survey and interview phases gave a range of reasons why their service did not employ an Educational Audiologist (Table 24): Retired Educational Audiologist not replaced, cost of Educational Audiologist training, too small a service to justify having this as a separate role as well as QToDs holding the Educational Audiologist qualification that their service does not recognise as a separate role. Interestingly, some HoSS said they believe in upskilling QToDs so they can do all the audiological jobs. Furthermore, some services do not have QToD volunteers to train as Educational Audiologists.

Table 24 – Service Considerations from services that do not employ an Educational Audiologist

PN	Quotes - service considerations
37	We desperately need Ed Auds in Scotland. We only have four left. The ones who retired were not replaced. (from survey)
30	Quite a few ToDs also fulfil the Ed Aud role without it being a separate job. This can often be the case in smaller LAs such as ours where there isn't sufficient work to create a separate full-time post. (from survey)
33	...educational audiology more widely, is not given the emphasis that I feel is necessary in mandatory training. Furthermore the cost of the Ed Aud qualification makes it a barrier for LAs to consider and the time to be involved in the training is off putting for many ToDS who have already undertaken the mandatory qualification. (from survey)
5	I believe in upskiling TODs so they can do all the jobs. I pick up new and changing info and share with others as well as being responsible for equipment purchase but believe TODs can do all the work some authorities see as specialist to a EA. (from survey)
34	Although we do not have a distinct role i.e. job post of Educational Audiologist, one of our service managers is a trained Ed Aud and this is the specialist responsibility within her manager role. (from survey)
4	Not as a separate role but may invest in some training for one of the lead teachers of the deaf for whom audiology is part of their responsibilities (from survey)
16	We currently have a QToD who takes responsibility for audiology. She does not want to undertake further training at the moment. I feel we need someone with specialist skills who has specific responsibilities but I don't feel the qualification is essential - although I recognise its value. (from survey)
20	We manage well as a team. We are a small service. We used to be one big service with [three other local authorities] and had four Ed Auds and three technicians but then the service was split up about 8 years ago. Three of the Ed Auds eventually retired. We ended up not having an Ed Aud in the split. (from interview)

Responses are colour coded by service with or without EA

	Response from HoSS in service with EA
	Response from HoSS in service without EA

4.3.1.3 Recruitment of Educational Audiologists

Interview participants with Educational Audiologist in their service structure were asked about their recruitment process. The consensus is that they are not advertising for Educational Audiologist specifically, but rather advertising for QToD with interest in audiology (Table 25). Three HoSS said that they always aim to recruit internally.

Table 25 – Responses on how services recruit Educational Audiologists

PN	Quotes - Recruitment of EA
25	We started employing Ed Auds about 14 years ago. They decided to train two of us up back then. The other original Ed Aud has now retired and we have trained up another Ed Aud so there are two of us. We advertise for a ToD with 'interest in Educational Audiology' expert model of the Ed Aud. Our vision is to help the team upskill. (from interview)
28	There was an Ed Aud previously who retired. The role was advertised but the role was not filled for 5 years. (from interview)
54	My service used to have two clinical audiologists about 20 years ago. I was recruited into the post when I was already a qualified Ed Aud. I would be very surprised if we recruited an Ed Aud – we would recruit from ToD (from interview)
40	There has never been an Ed Aud in [region] ever, as I said before. When I took over the big team, I valued the role of educational Audiologist, I suppose because I have done the course, I know the value of the role. We have had internal applications only so far. I wanted to give the team a chance to apply first. We had quite a few applicants for the Ed Aud posts. We had good interest from the team. (from interview)

Responses are colour coded by service with or without EA	
	Response from HoSS in service with EA
	Response from HoSS in service without EA

4.3.2 Audiological Skills within Services

4.3.2.1 Educational Audiologists and QToDs Skills and Knowledge

From interview data, the services that completed otoscopy and ear mould impressions have their competencies checked annually by senior clinical audiologists. Some services said that ALL their QToDs had to do this as part of their job role. One HoSS (PN19) said that she has always completed ear mould and otoscopy in previous services she worked for. She has not been able to implement this within her new service, saying that 'they are not ready for me to do this yet'. Furthermore, some services had a clear divide of what Educational Audiologists and QToDs' responsibilities should be (Table 26). Some services acknowledge that they are not paying sufficient attention to audiology (Table 26, PN33; PN3; PN19).

Table 26 – Skills and Knowledge of QToDs and Educational Audiologists

PN	Quotes - Skills and knowledge of QToDs and EAs
40	In some services, the Educational audiologist does it all, but I do not want that. I want everyone to have audiology skills. Yes, we need the Ed Aud to keep everyone up to date. We do not want to de-skill the ToDs. All our ToDs have always done the audiology so the Educational Audiologists will be advisory, upskilling the team, advising on complex cases. (from interview)
33	I know in my service we are not paying sufficient attention to the technical aspects of our role and have raised this as an issue. It may be helpful if, rather than studying for the Ed Aud qualification in full, there was the opportunity to undertake units of learning in specific aspects of the role e.g. Using a test box for verification and radio aid balancing. (from survey)
3	We do not get to practise audiology often so Ewing helps us with that when they visit. It is easier to wait for [name] than spend time trying to work it out. He does all the testbox work and sets-up radio aids and does transparency. (from interview)
25	The biggest is staying up-to-date with new research and technology changes and improvements and also assistive listening devices. Speech acoustics, the banana, as well, relationship between the speech banana and what the children can access, that knowledge is key as well. Knowledgeable about all the various syndromes and conditions. ToDs do not always have the time to research so reach out to the Ed Auds for advice. (from interview)
28	I think audiological development and new technology. They should manage a database of children's amplification, stock control, budgets, planning ahead and polices. The Ed Aud should have a key role in upskilling everyone to confidence. They should possess audiology and teaching competencies. They should work in conjunction with clinics and develop joint clinics. Quite often ToD and Ed Aud roles are combined. (from interview)
40	Well, the ear and hearing pathway. Having that knowledge is important. Technology obviously, keeping up to date with technology and problem solving. And then there's understanding speech discrimination, early years, informed choice and working in partnership with parents and getting that really embedded into practice. Informed choice is not just about giving information. I think people think they are giving informed choice but they are not really.
19	To be honest, the service I worked for before… because we had such a good Ed Aud and we had an audiology technician, we used to leave that sort of evaluation to them. We would do the maintenance, the listening checks, functional testing, we would apply for radio systems but actually, the testing, we used to up to the Ed Auds. (from interview)
19	The team is learning why we need to do certain checks when we visit children. The team did not question this before. I am not criticising but asking why do they do this and that, questions why they do things. (from interview)

Responses are colour coded by service with or without EA

	Response from HoSS in service with EA
	Response from HoSS in service without EA

4.3.2.2 Confidence Levels of QToDs

Confidence levels of QToDs to perform audiological tasks were a mixture of high and low confidence. Some QToDs would rather not complete audiological tasks because they have never undertaken them due to their audiological experiences thus far, or when services have young teams due to mass retirements (Table 27, PN5). Some HoSS has observed improvements in confidence levels when there is support and training in place and the team has the equipment they need to upskill (Table 27, PN28).

Some services that no longer had an Educational Audiologist due to retirement, said that the team was highly skilled due to a long history of good audiological practices and strong links with NHS Health that ensured their competencies were checked (Table 27, PN12). And for some services, QToDs are heavily reliant on whoever is responsible for coordinating audiology (Table 27, PN19; PN25), whether it was an Educational Audiologist or QToD responsible for audiology.

Table 27 - confidence of QToDs to perform audiological tasks in both service models

PN	Quotes - Confidence Levels of QToDs
25	They are dependent on the Ed Auds to do all the audiology tasks. Some ToDs avoid doing them and some are confident.
28	They are quite high now. I see the results within the team now since I got here. Equipment used to sit in cupboards (Parrots and HITs) and the team can now use them with confidence. We have policies for test boxes/ sharing gain curves etc. Practises are now firmly in place.
54	Some are really not very confident and need more support with it. The thing I say to the teachers is, I get it in terms of your confidence and that you need support and you need guidance and training from us and that's absolutely fine.
40	I would say in the rural area staff, most of the ToDs were recently trained and did not do practical Audiology, it was advice only. They were not seeing the children often enough to monitor amplification. There was no real contact with clinics.
5	Currently have a very young team as many have retired. I believe that everyone should have opportunities to skill-up so not reliant on me. I spend a lot of time on queries. Some are not confident in doing certain things – I find that most still some back to me for help and support... this will change with time as people skill up. We do lots of refreshers! Some are really keen to do audiology tasks and some not so much.

12	I would say as a team they're pretty skilled. We have our competencies tested by the audiology team at the hospital annually and if necessary by the ENT consultants themselves. So our team does perform otoscopy, which is quite unusual. ...and their competencies are tested every year... where the whole audiology team comes out and checks our team skills. All of the teachers would do otoscopy and they have their competencies checked in tympanometry. For PTA, they all do that and they're all competent.
19	I think they were quite reliant on the ToD who had the TLR for co-ordinating audiology before, but I am trying to upskill the team. There are some ToDs really happy to take on audiological tasks and some not so much, but we are working on the confidence levels now. They did not have to do this before.
20	The benefits of not having a technician right now is that all ToDs are forced to perform audiological tasks. They must skill up.
Responses are colour coded by service with or without EA	
	Response from HoSS in service with EA
	Response from HoSS in service without EA

4.3.2.3 Additional Skills

Some services highlighted classroom acoustic surveys and ear mould impression-taking and otoscopy embedded in their services' remit. These were explored further in the interview phase. Classroom acoustic surveys are seen as an advanced skill, where a level of understanding is necessary to complete surveys (Table 28, PN3; PN19; PN20). Whereas one service stated that the entire team was able to use the necessary equipment for taking measurements, only the HoSS who also had the Educational Audiology qualification would complete reports (Table 28, PN5).

Table 28 - HoSS comments on classroom acoustic surveys performed in their service

PN	Quotes - Classroom acoustic surveys
40	...that is something we are working on this now. It is not embedded in our practice. Lots of our ToDs have no idea about this... but we give general advice on acoustics like ceiling tiles etc. The BB93 applies now in [region]. So we have teamed up with the architects on new builds – they are working with us at a team, so we are looking at buildings before they are built. One of the Ed Auds is looking at what this would look like, like costs. We would make recommendations.
3	The team would not know how to do acoustic surveys… if I did not have the Ed Aud qualification.
19	Not undertaken here. In [previous service], we would go out as ToDs with the Ed Aud to observe the acoustic surveys so this is quite a loss for now. We do not have the training and do not own equipment. We do an environmental audit instead using the green and red list document and give basic suggestions to improve the classroom environment. If we say they need to change windows, they will not do anything. I mean when I arrived at my current job, they did not have sound level meters that had been calibrated.

5	We get all ToDs to learn how to use the Norsonic to take the measurements - we have a step by step guide. It saves time. There is a spreadsheet for them to enter the figures that give the answers and I do the reports, not them. We do surveys for tribunals or school improvements when requested.
20	...we are not qualified to do classroom acoustic surveys. We have been asked to do them in the past, but we look to neighbouring local authorities who have an Ed Aud to complete them at a fee. We do basic sound level meter checks and give general acoustic advice for improving classroom acoustics. In some instances we would quote the Equality Act and BB93 to schools if necessary.

Responses are colour coded by service with or without EA

	Response from HoSS in service with EA
	Response from HoSS in service without EA

Below in Table 29 are quotes from interview participants regarding ear mould impression-taking. Some of the issues services have been experiencing is establishing a protocol for QToDs and Educational Audiologists to perform this (Table 29, PN54). This may also be dependent on relationships with NHS audiology to ensure that competencies are checked (*Table 29, PN5*).

Table 29 - HoSS comments on ear mould impression-taking in their service

PN	Quotes - Ear mould Impression-taking
5	...we have select people that do ear mould impressions (two EY teachers). They are trained by the hospital (we have an agreement/ insurance with the hospital) and there are opportunities for in-clinic practice. The hospital checks competencies to practice annually. (from interview)
19	I was trained as a ToD how to make ear moulds. Also for children who get lots of ear infections and what we can do to make it better. (from interview)
54	There's the ear mould impression taking - we're not doing that here at the moment. And that's because we're not insured to do it yet… I want to get that up and running and written into the role. (from interview)

Responses are colour coded by service with or without EA

	Response from HoSS in service with EA
	Response from HoSS in service without EA

4.3.2.4 Responsibility for New Referrals

Interview participants were asked about whom new referrals are allocated to within the teams. Some services appear to be moving away from Educational Audiologists taking on full responsibility for referrals from NHSP and including infants in QToD caseloads (*Table 30, PN20; PN28*).

Table 30 – Responsibility for new referrals

PN	Quotes - Responsibility for new referrals
20	The Ed Auds did all the clinics back then. They would sort out appointments with hospitals. They also took on all new referrals from NHSP as we would only get children once they started school. The EAs also fitted all radio aids and other equipment. Now, we all get babies from newborn hearing screening on our caseload which has its benefits as we stay with the children for some time. Parents like this, rather than having to change ToD. (from interview)
28	I do this as manager of the Team and then allocated the new referrals/ babies to the ToDs. All ToDs have a mix of ages in their caseload. We run a parent support group regularly so I do get round to meeting all the new babies and their families (from interview)
54	So they're triaged by me [as Ed Aud] basically. So they all go into that central inbox. I use the Natsip levelling at that point with the information I've got to make a determination on the level of support required. I look at the area where it is because our teachers are geographically located and I look at the caseloads and then I will give that case to the teachers. And if it's a young child, I will phone the parents when I get the referral to tell them that I've got the referral and to offer to visit them myself. But if it's an older child, I will bypass that and just give it straight to a teacher of the deaf and expect them to do that bit. (from interview)

Responses are colour coded by service with or without EA

	Response from HoSS in service with EA
	Response from HoSS in service without EA

4.3.3 Impact of Audiological Competencies within Services

4.3.3.1 Service Impact on Team, CYPD, Settings and MDT

The interview participants were asked what impact their service model had on CYPD, their families, settings, and MDT. Some felt that they were better equipped to deal with more complex cases by having the knowledge of an Educational Audiologist (Table 31, PN54; PN25).

Table 31 – Service impact on CYPD, family, setting and MDT

PN	Quotes - Service impact on CYPD, family, settings and MDT
40	One of the big impact has been policy development, because we have merged. Because of the confidence levels, they now have a point of contact, because I am quite busy. The Ed Auds have taken that on, liaison with clinics and implant centre and a bit more joined up working. (from interview)
25	... the reason why we have to check equipment... this one child was not happy with radio aid fitting so we did speech testing and changed the gain on the radio aid at different gains – so we tried +2dB, 0dB, -4dB – the child was hearing feedback 'ch tch' etc at 0dB and +2B. Minus 4dB was the best for the child, which matched their speech discrimination testing...this just shows the importance of the equipment and the knowledge of the Ed Aud to change the settings with confidence. (from interview)

37	Quite often we have families who struggle with transport and don't always get their child to the hospital for new impressions. The Ed Aud certainly helped to reduce waiting times. (from interview)
20	We cannot do classroom acoustics so that is a weakness. (from interview)
54	There are children that didn't have amplification that was meeting their needs until an Ed Aud was able to really look at what was going on, dig into the settings, dig into what was being done, look at it on the test box, do loads of speech discrimination, functional tests and give the audiology team advice and guidance and, you know, work as a part of the team to get the best outcomes for the child. (from interview)

Responses are colour coded by service with or without EA

	Response from HoSS in service with EA
	Response from HoSS in service without EA

4.3.3.2 Benefits of an Educational Audiologist

Survey and interview participants were asked about the benefits of having an Educational Audiologist as part of their team. Responses in Table 32 below were from HoSS who have experience of an Educational Audiologist in a current or previous service.

Table 32 - HoSS comments on the benefits of Educational Audiologist in their service

PN	Quotes - Benefits of Educational Audiologists
7	Swift action when there are problems with technology in education establishments. Some one with advanced knowledge in the technical aspect of technology on site. (from survey)
17	Expert up to date knowledge to keep QTOD skills and knowledge update. (from survey)
28	Wider perspective on audiological decision making that can ultimately affect budget decisions such as liaise with Audiology clinic over whether Oticon or Marvel aids to be fitted. Training opportunities given to upskill everyone in the team to same standards so that on retirement or if Ed Aud leaves the service everyone is skilled to same level. (from interview)
40	Improved links with Health including setting up formal arrangements for collaborative working… They keep up to date with new developments and research Fantastic to finally have these roles in [region] - couldn't do without them. (from interview)
41	The liaisons between professionals have strengthened relationships and a better understanding of the job role. Families can see us all working together. Offer a better service for the CYP by working together e.g., earmold impressions in the field. (from survey)
45	Lessens the load for ToD and carries out technical testing /sharing information. (from survey)

47	The professional knowledge and understanding our Ed Aud brings is immeasurable. [pronoun] is a point of call for all team members when trouble shooting on visits and [pronoun] also keeps [themself] up to date with the very latest innovations and research which [pronoun] shares and updates the team on. [Pronoun] is also seen as someone to trust by parents, and can be relied upon to give the best advice on management of tricky audiological cases. We would not manage without [pronoun] as a team, and the suppoort we give to our CYP would be lessened without [pronoun]. (from survey)
40	...we had paediatric clinics and I used to be a part of that before we even had Ed Auds. When I did the Ed Aud course and would go to clinic, I found that we get a better relationship with the audiologist if they know you have the additional training and knowledge. We have improved our relationships with them hugely because they recognise us as that extra layer of knowledge. It has changed our relationships and that is a benefit.
49	Better liaison with audiology, improved understanding of equipment with the team, school acoustic improvement, improved links with equipment reps (from survey)

Responses are colour coded by service with or without EA

	Response from HoSS in service with EA
	Response from HoSS in service without EA

The quotes in Table 33 below provide an insight into how the role of Educational Audiology is perceived, with some providing benefits for both service models (*PN19*).

Table 33 – HoSS comments on previous experiences of Educational Audiologist

PN	Quotes - Benefits of Educational Audiologists from Non-EA group
12	... because they (the LA) feel that the role is undertaken through the other mechanisms that we have. I do not seen any sign of us having an Ed Aud now. We still attend all children's hearing appointments, which the Ed Aud used to do. That is the model we have... but they're not getting the bespoke training of an Ed Aud. ...the very fact that an Ed Aud is also a teacher of the deaf usually, that's pretty critical to me. They understand deafness and its implications, the linguistic implications, the speech implications, the technician doesn't understand any of that. (from interview)
37	Our Ed Aud was able to run a clinic from our testing room, helping out the local audiology team with their waiting lists. Children and families were seen promptly. Our Ed Aud took the lead for the ordering and set up of radio aids – this now falls to me. Our Ed Aud was also a great contact for newly diagnosed families. She kept a small caseload of pupils from 0 – 3 yrs, which meant ToDs had more time to offer sessions to older pupils. If we had had an Ed Aud during the pandemic, Audiology would have had help with their enormous waiting list of children to be seen. (from interview)
19	Having worked in services with and without an Ed aud I can see benefits for both models of service. If all aud functions are focused on the Ed aud that can disempower and deskill the ToDs. However some services without Ed auds might have slipped into weaker audiological management without an Ed aud leading on developing practice. (from survey)

19	...if you have an Ed Aud, they would take ownership and they get meetings scheduled and they might be doing auditing... It is more difficult without an Ed Aud. I really like audiology but I am not plugged into the same forums that an Ed Aud is, and do not have links like that – not the up-to-date information. It is also to know what you do not know. When I was setting up the speech in noise testing, and we were stuck and I had to ask and Ed Aud I know, who is good at speech in noise testing. (from interview)

Responses are colour coded by service with or without EA

	Response from HoSS in service with EA
	Response from HoSS in service without EA

Issues can also arise when Educational Audiologist time allocation is not maintained due to promotions or a specific subset of caseload CYPD (*Table 34, PN24; PN31*).

Table 34 - How the Educational Audiologist is embedded within a service can also have an effect

PN	Quotes - How the EA is embedded within a service/setting can also have an effect:
24	The impact of having an Ed Aud was excellent however now that the Ed Aud is also headteacher (for 4 years now), little time is afforded to the ed aud role and therefore the impact has diminished significantly. (from survey)
31	Our Educational Audiologist is not part of our team. They work centrally and have the caseload for 0-3, they are then passed on to our QToD team. (from survey)

Responses are colour coded by service with or without EA

	Response from HoSS in service with EA
	Response from HoSS in service without EA

Interview participants were asked for their views on the quality of audiology coordination and management within their services. One participant stressed the importance of QToDs possessing audiological knowledge (*Table 35, PN54*), whilst another highlighted that they had up-to-date audiology equipment to enhance their service delivery due to having an Educational Audiologist now (*Table 35, PN35*). For some services, strengthening audiology within the service is still a work in progress (*Table 35, PN19*).

Table 35 - QToDs vs. Educational Audiologists working

PN	Quotes - QToDs Vs EA working
19	[name] is brilliant in terms of managing the ordering and auditing maintenance. But the sort of management and looking at the quality standards, that has not really happened. It is a work in progress. (from interview)
37	If we were having some difficult conversations with schools e.g. requesting a closed classroom for a deaf pupil, in preference to a noisy open plan classroom, the very title of an 'Educational Audiologist' being present at any meetings, seemed to hold a lot of weight. When she made recommendations, they were more likely to be considered and acted upon than those suggested by a ToD. In some cases, the role of an Ed Aud was more respected than the role of a ToD. (from interview)
28	The absence of Ed Aud meant that the team lacked up-to-date tech e.g., making decisions on integrated receivers as they cannot be transferred, no planning ahead, we were not using HITs, no policies in place and no radio aid agreements. We now have five HITs and policies and have agreements to be able to send radio aids home. (from interview)
54	...fundamentally you have two main functions as a teacher of the deaf and that is to understand fully and support the language development of the children you're working with and audiology. (from interview)
Responses are colour coded by service with or without EA	
	Response from HoSS in service with EA
	Response from HoSS in service without EA

4.3.4 CPD for Both QToDs and Educational Audiologists

4.3.4.1 Limitations to CPD

CPD is important in education to improve professional practices (Tyagi, 2021), and rapid evolvement in technology will only increase its importance. But there can also be limitations to CPD in UK sensory services due to the cost for LAs. The majority of HoSS interviewed mention training budgets as a barrier to enabling their team's skills and knowledge, with many seeking out whatever free training is available primarily from manufacturers (*Table 36*).

Table 36 – Quotes from HoSS interviewed on limitations to CPD

PN	Quotes on limitations to CPD
25	The biggest problem is money. We prioritise the training as we cannot support the children if we do not have the skills and knowledge. (from interview)
40	Budgets is difficult. No money. The budget is pretend money. The honest answer is there was no CPD opportunity before. I am developing this rolling program, in-service. (from interview)
5	My concern going forward is budget constraints. Right now we can afford Ed Aud training. (from interview)

19	We do not have a training budget – we get one budget to cover everything so it can be difficult. I have to cover as best as I can, assessments etc. (from interview)
20	The costs of training matters. (from interview)
3	We are a very small LA. It is difficult to keep up to date on audiology. We do not always have sufficient time to keep up to date with on-going training. (from interview)

Responses are colour coded by service with or without EA

	Response from HoSS in service with EA
	Response from HoSS in service without EA

4.3.4.2 Audiology CPD Opportunities

From the data collected, services aim to generally prioritise CPD. From both groups, upskilling follows a similar pattern of utilising manufacturers' free training. This is at times combined with support from NHS audiology training and competency checks. In some of the services without Educational Audiologists, practices were firmly embedded and regular competencies were checked by NHS audiology. Additionally, audiology leads seek support from audiology forums and networks. Interview participants were asked how they ensured that their Educational Audiologist continued to develop their skills and knowledge (Table 37).

Table 37 – CPD opportunities for Educational Audiologist

PN	Quotes - EA CPD opportunities
25	I gave our main Ed Aud one day a month just for research and upskilling – reading journals, websites, whatever [they] needs to do. We prioritise training here, so we are always up to date. We access all the free manufacturer training, so we ask the reps too for training. (from interview)
40	We access what we can for now from hospitals, free online training etc. We are starting a rolling programme with the Ed Auds -inservice training, basics. We access a lot of the SSC stuff and setting up clinic time with hospitals. We also access clinic support like the BAHA clinic also provides training. The Ed Auds are organising that. We also have manufacturer reps... (from interview)
54	People arrange their own CPD according to their development goals... their objectives on their performance management. We do have a budget for training. And the budget, this is for all training... to train people to become teachers of the deaf. But the budget, the size of the budget, enables six teachers of the deaf to be training at any one time. We do not train six teachers of the deaf at a time all the time... We used it to pay for a ToD to train as Educational Audiologist, for instance. There's been a lot of online stuff. People dipping into courses from Phonak and courses from other providers. And I do the half-termly audiology refreshers. I ask the teachers what they would like covered.(from interview)

Responses are colour coded by service with or without EA

	Response from HoSS in service with EA
	Response from HoSS in service without EA

Survey and interview participants from the group that does not employ an Educational Audiologist were asked how they ensure that their team is up to date on audiological skills and knowledge. Responses (Table 38) ranged from engaging the expert services of the Ewing Foundation, training linked to service development plan, links with colleagues & manufacturers, team meetings that include audiology briefing and updates, training from CI teams, CPD-specific, accessing training from SSC (Scottish Sensory Centre), support from NHS audiology & CI colleagues, annual competencies in ear mould impressions and otoscopy check by clinical audiologists, NATSIP updates, BATOD content, CHSWG attendance, NDCS training, BAEA member support and training updates from technicians.

Table 38 - Quotes from survey and interviews from services without an Educational Audiologist on general CPD opportunities QToDs

PN	Quotes - How HoSS ensure the team is kept up to date with audiological skills
19	Myself and the ToD responsible for audiology support the team with refreshers and encourage them to attend training available. We bought in Ewing Foundation in for 2 days to calibrate our equipment and deliver training to the entire team on best practice when doing audiological visits to schools. Also best practice in functional listening checks and what we should actually do on a visit – that was not happening. There was lot of going through the motions and people were not really questioning why they were doing things. (from interview)
16	Via QToD responsible for audiology as well as as much training/ sessions with manufacturers we can get. We are also reinstating joint training sessions with HI service and audiology. (from survey)
3	We use Ewing Foundation and all the free online courses from manufacturers. I am also a member of the BAEA/ SEAG and Batod south so find out about useful training and updates. I encourage the team to attend. (from interview)
20	We also attend CI manufacturer training and our local CI clinic informs us on what is new. I also attend CHSWG meetings. We have regular meetings as a team with focused audiology updates. I also ask ToDs to look out for CPD opportunities and let me know so I can book them on those. (from interview)
30	The HoSS is a qualified Ed Aud and attends regional meetings/ liases with regional colleagues to keep up-to-date. HoSS feedbacks to the team. (from survey)
53	We have a QToD who is training as an Educ audiologist and she regularly updates the team. (from survey)
Responses are colour coded by service with or without EA	
	Response from HoSS in service with EA
	Response from HoSS in service without EA

4.3.4.3 Team Training Delivery by Educational Audiologists

The thirty-one HoSS from services with Educational Audiologists were asked what training topics and themes their Educational Audiologist delivered to their team. A wide range of topics was mentioned (Table 39), many to fit in with what the team's training priority was. Confidence in using test boxes and updating knowledge and skills on new equipment was prevalent throughout.

Table 39 – Range of training themes and topics delivered by EAs in services that employ the role

Speech-In-Noise & speech discrimination testing	Soundfield Systems
Classroom acoustic surveys – good practice & management	Interpreting audiograms
Testbox protocols & practices – both FP35 & Aurical HIT	Complex cases discussion
Pros and cons of equipment options	Deaf awareness/ understanding deafness
BAHA training	ALD consideration & choice for complex cases
Speech Acoustics	Troubleshooting faults
Technology updates – ALDs, CI and HA	Consultation on shaping role of Ed Aud
Checking CI processors	New equipment demonstration
Speech and language	Transferring Roger X receiver codes to Marvel CI & HA
Cognitive load and listening fatigue	Bluetooth ALDs
Refreshers for Newborn Hearing Screening (NHSP)	Audiology refreshers
Updates on CI technology	Tamper-proofing HA and what is needed
Different ear mould materials and when to use them	Auditory Neuropathy Spectrum Disorder (ANSD)
Auditory Processing Disorder (APD)	Audiology clinic training on education support, EHCP & funding

4.3.5 Liaisons with Health Services and Beyond

4.3.5.1 Relationships with NHS Audiology

The interview participants were asked about their relationships with NHS Audiology, communicating caseloads and relationships with neighbouring local authorities. Two services that do not have an Educational Audiology reported strong relationships with their NHS audiology clinics (*Table 40, PN20; PN37*). Large services that have several NHS audiology clinics to liaise with report stronger links with some than others (*Table 40, PN40; PN25*).

Table 40 - Relationships with NHS Audiology

PN	Quotes - Relationships with Health
25	We have lots of audiology departments to liaise with. So with some of the clinics, we get invitations to joint clinics, newly identified children and complex needs. A few are not as good at working together. It is mixed. We do attend all the CHSWGs (from interview)
28	I am currently liaising with hospital audiology about fitting Oticon hearing aids and EduMic vs Marvel hearing aids. We are trialling teens with both EduMic and Roger radio aids to giving feedback to the hospital. (from interview)
54	The honest truth is it comes down to hospital ethos, so it varies. We have half-termly meetings to share caseloads, share reports. Some are challenging, much more remote and we have little contact… Some hospitals we have really close relationships with. (from interview)
40	We have strong relationships with two of the trusts. It is mixed – some we have good relationships with and some, poor. Our target is to strengthen relationships with the other trusts… Ed auds targets is to establish good joint working, and MS Teams has helped. For one of the middle relationship ones, we now have a regular meeting with them, which is good. We have regular meetings with some of our hospitals now. (from interview)
20	We have a great relationship with our local hospital audiology clinic. I get invited to clinic and I attend fortnightly for the paediatric clinic appts. (from interview)
37	We have excellent relationships with audiology. They hold a weekly clinic from our building, I attend a monthly catch up with the auds and the ENT consultant (first Tuesday of the month) and the auds are always just an email away. (from interview)
Responses are colour coded by service with or without EA	
	Response from HoSS in service with EA
	Response from HoSS in service without EA

4.3.5.2 Caseload Communication

Some services have regular joint clinics embedded in their practice to discuss caseloads and monitor CYPD (Table 41, PN12; PN19; PN25), whereas some services are working on developing this area.

Table 41 - Caseload Communication / Joint Clinics

PN	Quotes - Caseload Communication / Joint Clinics
25	We have a multi-agency group meeting... with some of our hospitals that do not invite us to joint clinics, once a month. So we have the opportunity to discuss cases. (from interview)
28	It is difficult to fit in joint clinics right now as a manager of the team. We have virtual meetings on Teams regularly with the hospital audiology where we raise queries from the team/ caseload. (from interview)

12	... one of the senior teachers and one of the regular ToDs rotate the role between the two of them. So every week, every clinic actually, there is an experienced teacher of the deaf in the clinic... that the handover and hearing aid evaluations when the children go back to get hearing aids evaluated. (from interview)
19	No we do not have joint clinics... We do not have liaison for caseload queries and updates that are regular so will be working on this... One thing we want to do is invite the clinical audiologists to come speak to the team of ToDs and TAs for example, we want to talk about the impact of ear moulds on a child, why ear moulds are important, like soft vs hard mould benefits to encourage child independence. (from interview)
19	We have been going to community-based clinics. We haven't always been finding out when the clinics are happening, because the waiting lists are very long, might be a covid related problem. Families are getting short notice appointment so harder to go with families. The consultant audiologist is retiring, and the replacement is keen to explore joint working. (from interview)

Responses are colour coded by service with or without EA

	Response from HoSS in service with EA
	Response from HoSS in service without EA

4.3.5.3 Relationships with Neighbouring Local Authorities

Some services reported good professional working with other local authorities due to relationships through Educational Audiology networking groups (*Table 42, PN3; PN5; PN20*) where they can seek advice on audiology practices. One HoSS said that they were in a local HoSS networking group, where they all supported each other e.g., planning for emergencies (*Table 42, PN19*).

Table 42 - Relationships with neighbouring LAs

PN	Quotes - Relationships with Neighbouring LAs
3	… I can ask for help because the Ed Aud in the next LA is my friend and can help with troubleshooting and giving advise on issues.
5	I am still part of a whatsapp group of Ed Auds so usually ask on that forum for support and tips.
12	I don't think we would go and ask for educational audiology advice. I would go to the audiology staff at the hospital. So the senior audiology staff, they've worked... in our special schools. They used to come out and do joint clinics with their educational audiologists. I think they've got quite an education focused view of what they're doing.
19	I have met them all in person. We have discussed planning for emergencies, example like if there was a catastrophic event like losing laptops and equipment in fire and what we would do then or if our building burnt down.
20	We have email groups for the neighbouring local authorities and we can find things out and make sure we are all doing the same. [two neighbouring local authorities] have Ed Auds and they would come out if needed. For a fee.

28	I do invite other LAs to come to any training opportunities we have secured.
25	One of our neighbouring authorities lend us their Norsonic room acoustics kit, so that is the other way around. And we also liaise with cross-border children regarding radio aids. We also do joint training with this neighbouring authority.

Responses are colour coded by service with or without EA

	Response from HoSS in service with EA
	Response from HoSS in service without EA

4.3.6 Service Priorities and the Future for Educational Audiology

Interview participants were asked about their service's priorities and how they envisaged the role of Educational Audiology. The respondents provided a wide range of priorities and future service development across several topics, some relating to audiology and general service delivery around social groups and improving outcomes for deaf children e.g., post-Covid recovery of home-schooled children and transition through school and into adulthood. Focus on audiology priorities highlight empowering the team, settings, and families to troubleshoot and encourage positive use of personal amplification including assistive listening devices.

An interesting theme that arose from the interviews phase was that five out of the ten services highlighted succession planning as a priority for the near future. This was also highlighted in services that did not employ the role of Educational Audiologist, but that their head of service held a qualification and co-ordinated audiology within the team.

Several HoSS highlighted better support for older children to enable a smoother transition into adulthood and positive deaf identities.

4.3.6.1 Audiological Skills

The consensus from interview participants is that audiological skills are important within the team. For many, continuing to provide good quality equipment, and upgrading of current equipment to enhance their service delivery was precedent (Table 43).

Table 43 – Service priorities on audiological skills for services

PN	Quotes on service priorities for audiological skills
5	...we still use FP35s. It would be great to have some Aurical HITS so this is on our list. Transparency can be difficult with FP35s now. [t*echnician name*] is developing a box we can connect to FP35s to be able to put in transmitters and CIs so we can close the lids. (from interview)
19	We want to develop speech in noise testing protocols. We have created a set-up with tripods and speakers, but we need protocols to ensure that we are all doing this the same way. (from interview)
28	My plan is to be able to have most of the team complete the Ed Aud course on a rolling programme. This will upskill the entire team but I know not everyone would want to be trained. (from interview)
54	There's the ear mould impression taking - we're not doing that here at the moment. And that's because we're not insured to do it yet. I want to get that up and running and written into the role. (from interview)
40	We want to develop technology and acoustics. The BB93 applies now in [*region*]. So we have teamed up with the architects on new builds – they are working with us as a team, so we are looking at buildings before they are built. The architects are working with us now. One of the Ed Auds is looking at what this would look like, like costs. We would make recommendations. Things are starting to come together now. I am putting together a business case for radio aids… we put in a business case for what we think we are going to need every year. (from interview)
Responses are colour coded by service with or without EA	
	Response from HoSS in service with EA
	Response from HoSS in service without EA

4.3.6.2 Enhancements on Service Delivery

Services had a range of areas that they planned to implement to enhance their service delivery - social groups, promoting deaf identity, transition to adulthood, and empowering CYPD and families with managing their hearing loss and equipment (Table 44 below)

Table 44 - Quotes on service priorities for enhancement of service delivery

PN	Quotes on service priorities for enhancement on service delivery
12	… we have a program called [name of program]... that's children who come up with a mild loss or unilateral loss. They are monitored twice a year by our services in liaison with health so they get much more regular follow-up and greater linguistic follow-up. And quite a high percentage of those children end up aided, and they would not have been aided had they not gone through the [name of program] program. (from interview)

12	So we're working with health, looking at transition into primary school, primary to secondary transition and transition into adult audiology. And then what happens in the end that if we get the transition periods correct. Then we find that the journey is much smoother. (from interview)
19	Making available written advice available for settings and families to problem-solve and troubleshoot when necessary e.g., re-tubing moulds, connecting mini mics etc. We do not want to build helplessness amongst colleagues and parents, but rather we want to empower them. (from interview)
19	The LA does not allow radio aids to go home. We would like to be able to send radio aids home with children so that we have home-school-service agreement to encourage language development at home. It is like the hearing aid, it is part of them – they come to school with them. If children are using it in all areas of their life, they are more likely to know the benefits of equipment they have. (from interview)
20	We are working on 'preparing for adulthood' for our young people. We want better transition to adulthood and to ensure the YP are aware of what is out there and what technology they can use. (from interview)
37	We want to see families and pupils grow in confidence in managing a hearing loss. We want our pupils to be successful and independent members of society, who have full participation in life/society. We aim to build capacity within pupils, school staff and parents to be confident in their knowledge and management of a hearing loss. (from interview)
25	Better provision for our oral deaf children like access to note takers, or different types of support. In [service] we support signing children really well but oral deaf children who need a different style of support do not get the same. (from interview)
28	I want to develop an audiology self-advocacy curriculum; why children become reluctant users of amplification and ALDs. (from interview)
40	We need to look at transition, especially 16+. (from interview)

Responses are colour coded by service with or without EA

	Response from HoSS in service with EA
	Response from HoSS in service without EA

4.3.6.3 Succession Planning and Training

Five of the services interviewed had succession planning on their list of priorities *(see Table 45 below*) with the main reason for this being that they wanted the role of the Educational Audiology to continue within the service.

Table 45 - Quotes on service priorities for succession planning and training

PN	Quotes on service priorities for succession planning and training
5	Well, succession planning, in case of retirement. I am training up an Ed Aud now. (from interview)

25	I would like to ensure that we continue with at least one FT amount of Ed Aud. It is helpful having two people doing it as you can bounce ideas off each other and share knowledge... one for the north and one south. And when we both get to the age of retirements, they always use the word 'succession planning' so I think services need to plan for what happens if we both leave or someone gets promoted and did not have time for Ed Aud. So I think we stay as we are but we have to plan for the future. (from interview)
28	Succession planning. I am trying to justify why we need the role of an Ed Aud in the team. (from interview)
54	I definitely want to have another full-time Ed Aud in post so I am working on that. It is an important role. I definitely want, while I am here, that there would always be an Educational Audiologist post in the service. (from interview)
40	I suppose finishing the training for one of the Ed Auds. I want the whole team to say what the role is going to be. We have never had an Ed Aud role before in [region]. We are starting everything from scratch now. We have one Ed Aud in training now so hopefully [pronoun] will be qualified soon. (from interview)

Responses are colour coded by service with or without EA

	Response from HoSS in service with EA
	Response from HoSS in service without EA

4.4 Section Summary

The data from both the survey and semi-structured interviews were analysed, grouping the data into quantitative and qualitative data. From the data captured, the role of Educational Audiologist was known to all participants, so the essence of the data capture was the perspectives of HoSS. Interestingly, some services mention someone in their team, either themselves or a colleague, who held the Educational Audiologist qualification, but they do not have this as a separate role. The core of the analysis is how LAs and sensory services perceive the role, considerations for embedding such a role in their service structure, which is dependent on several factors and ultimately how services are fulfilling the audiological aspects of sensory services to enable better outcomes for CYPD.

5. Discussion

This research study aimed to capture the perspectives of HoSS in the UK on the role of Educational Audiology. The key points gathered from both qualitative and quantitative data will be summarised in this section. The study included perspectives of both HoSS from services that employ an Educational Audiologist, and services that do not employ an Educational Audiologist. Data was collected in the form of an online survey and semi-structured interviews. The first section will discuss the operational structures of HoSS that responded, in terms of how audiology is co-ordinated within their service and the benefits and limitations to both models of working. The second section will discuss the audiology-related skills and knowledge in both Educational Audiologist and QToD, and relationships with health services. The third section will discuss the barriers and enablers to LAs employing an Educational Audiologist. The fourth section will discuss future implications for the role of Educational Audiologist, and the final section will discuss some of the strengths and limitations of the study.

5.1 Operational Structure of Education Services in the UK

From the data collected, 81% of HoSS possessed QToD status, and 24% with an Educational Audiology qualification. All four HoSS who participated in the interview phase from services that employed Educational Audiologists were Educational Audiologists themselves and have some responsibility for co-ordinating audiology within their service. A further two HoSS from the services without Educational Audiologists said they had Educational Audiologist qualifications and co-ordinated audiology, but that they were not employed as Educational Audiologists. One of these two said that their service has always had someone with the Educational Audiology qualification as HoSS and that they were in the process of training another Educational Audiologist in preparation for succession planning. Interestingly, they do not consider their service to employ Educational Audiologists when they have actively invested in Educational Audiology training. For some services where the HoSS is also the Educational Audiologist, they do not have sufficient time to coordinate and support audiology within the teams (see Table 31, PN40 and Table 34, PN 31). Some of the HoSS would ideally want to have another Educational Audiologist within the team (see Table 45, PN25, PN54 and Table 43, PN28).

It does appear from this study that services do not advertise specifically for an Educational Audiologist but rather advertise for a QToD with an interest in audiology. Some services also recruit internally and fund Educational Audiology training. There is still the issue of the role becoming redundant within services, especially when an Educational Audiologist retired or moved on to another service (Table 21, PN37; Table 24, PN20). From the study, 23% out of 31 services with an Educational Audiologist said that they had only been employing Educational Audiologists in the last decade (average of 2.7 years). The reasons given for including the role in the service's structure were to enhance the audiological skills and knowledge of the team.

There are a variety of reasons why the Educational Audiology role is not consistent in LAs and services, ranging from limited budgets to a lack of succession planning. Some of the reasons for not including an Educational Audiologist in the service structure are not dissimilar to the research by Rosenberg (2017), where the majority of HoSS that responded to the survey stated, "not a service priority" and "lack of funding" as reasons. Some also said that no one in the team was interested in completing the training, resulting in the role becoming redundant. For some, this has had an impact on how services work and the confidence levels of QToDs to perform audiological tasks that they did not have sufficient skills and knowledge to undertake.

On the other hand, some services said that not having an Educational Audiologist had a positive impact on the team and encouraged QToDs to skill up (see Table 24, PN5). Some participants said they had previously had a poor experience of Educational Audiologist-working, where knowledge was not shared, and the role was not an 'audiology co-ordination' responsibility but rather one that was very separate from that of QToDs. The Educational Audiologist was called out when issues arose, they would complete the job and not impart knowledge to the team. What was considered a 'good practice model' by some HoSS is that the Educational Audiologist's responsibility is very much that of sharing knowledge, upskilling QToDs and supporting with complex cases to empower QToDs to support their caseloads well. One HoSS emphasised that a QToD have "two main functions as a teacher of the deaf and that is to understand fully and support the language development of the children you're working with and audiology".

The use of Audiology Technicians (AT) adds another dimension, with data collected showing that 31% (17/54) of services have an AT or use the services of a technician from the Ewing Foundation. Most of this percentage (22%, 12/31 services) is from services that also employ an Educational Audiologist, with only 9% of 23 from services that do not have an Educational Audiologist in their structure. One HoSS said that their AT was extremely experienced in audiology but did not have knowledge of education, which is where an Educational Audiologist would have been useful (see Table 33, PN12). Another HoSS said that their AT leaving their role was a huge loss to the team as many QToDs were not confident completing audiological tasks, hence they were eager to recruit a replacement as soon as possible. The HoSS implied that it had been difficult to attract applicants. Unfortunately, they were not able to invest in Educational Audiology training for the team. This is likely to have an impact on the timeliness of attending to technical issues with CYPD equipment.

5.2 The Role of the Educational Audiologist in UK Services

The consensus from the study is that the role of Educational Audiology is an added benefit that enhances service delivery. This was evident in both services with and without an Educational Audiologist. From the survey data, 70% of the 23 services without an Educational Audiologist said that they would want an Educational Audiologist as part of their team if there were no resource constraints.

Relationships with health services vary and are dependent on historical practices. For services that have not had good joint working with Health, establishing relationships can be difficult (see Table 40, PN54; PN40). For some services, health services work well with them and assess the team's competencies in practices e.g., ear mould impression taking and otoscopy. From the HoSS that had an Educational Audiologist within their team, their general perception is that health works better with them and compared it favourably to their relationships with them before they had an Educational Audiologist. They felt that the role validated their skills and knowledge or gained them more respect from clinical audiologists (see Table 32, PN40).

It is clear from the research that there is an overlap between the Educational Audiologist and QToD roles, and for smaller services, QToDs either do not have sufficient time to develop their audiological skills (see Table 26, PN3) or they possess

good audiological skills already. Some services do not prioritise audiology and focus support for the CYPD on other aspects like language development. It was interesting to hear that in some services there are still budget constraints for providing CYPD with ALDs. And for some, QToDs are not verifying the ALDs once fitted because they do not know how to perform these. CYPD continue to underachieve compared with their hearing peers (Simkiss, 2013) and CYPD depend on their personal amplification and ALDs to be in good working condition to enable them to access language and learning. This is more important in younger children who cannot report faults or report faults accurately, and as Marlatt (2014) highlights, CYPD deserve the expertise that the role of Educational Audiologist contributes, enabling them to reach their full potential.

The BAEA membership is voluntary and includes access to regional meetings and has supported many Educational Audiologists with their CPD by encouraging networking and freedom to learn and share knowledge with others. For some services that are neighbours, relationships are strengthened also by attending CHSWG and CI Liaison meetings.

5.3 Barriers and Enablers

The survey and interviews identified both barriers and enablers to local authorities including Educational Audiologists within their service, which are summarised in Table 46 below.

Table 46 – Summary of barriers and enablers for LAs using the role of EA

BARRIERS AND ENABLERS TO LOCAL AUTHORITIES & SENSORY SERVICES USING THE ROLE OF EDUCATIONAL AUDIOLOGIST	
ENABLERS	*BARRIERS*
Long history of EA in service structure	Budget constraints
Good experience of EA working	Retirements and lack of succession planning
Understanding of benefits of EA working (senior managers & HoSS	Limited understanding of role of EA (senior managers)
Long service from current EA	Too small a service to justify a separate EA role
Training budget availability	Poor working experience of EA
To raise confidence levels of QToDs in audiology	Not wanting to deskill QToDs

The benefits of Educational Audiologists in the UK compared to the USA is that UK Educational Audiologists have knowledge and experience in both education and

audiology and as this study shows, 97% of the 31 services said their Educational Audiologist was also a QToD. It could be argued that the benefit of the USA model of Educational Audiology is that the Educational Audiologist is a qualified Clinical Audiologist.

5.4 Skills and Knowledge

There are still barriers to Educational Audiologists and QToDs improving their skills and knowledge. Where some services rely on their Educational Audiologist to upskill the team of QToDs, Educational Audiologists also need to keep their knowledge and skills up to date to be able to share that knowledge with the team and coordinate audiology well. For many services, training budgets are at the core of why CPD can be difficult, hence utilising the free training from manufacturers, and at times NHS audiology, CI centres and the Ewing Foundation. There is also the issue of time to enable QToDs and Educational Audiologists to attend training days away from their work base, with their heavy caseloads.

From this study, services with Educational Audiologists deliver regular training to their teams to enhance practice and upskill QToDs. Some HoSS said that they ask the team what training they prefer and for many this is around connectivity and management of hearing amplification and ALDs (see Table 39).

The summary below (Table 47) shows how both groups that participated in the survey work. The percentages are quite close, showing that both service types are performing similarly. What would set these service types apart is whether all QToD in both groups can do these, or whether there are dedicated team members assigned. One HoSS (PN40) said that ‘it is not a good model to leave the Ed Aud to all audiological jobs. The study shows that confidence levels vary (see Table 26, PN33, PN3, PN19 and Table 27) with some QToDs not willing to engage in these tasks. Ear mould impression taking is low for both service types. The interview phase showed that taking impressions was dependent on whether liability insurance was in place (see Table 43, PN54), and their relationships with NHS audiology to enable annual competency checks by clinical audiologists (see Table 29). One benefit of education services taking

ear-mould impressions is ensuring that CYPD whose families cannot get them to NHS audiology appointments are seen promptly (see Table 33, PN37).

Table 47 - EA working vs services without an EA

Practical Audiology Skills	EAs that complete this	Services without and EA
Fitting of ALDs/ Transparency	81%	83%
Ear mould impression-taking & otoscopy	26%	17%
Classroom acoustic surveys	77%	78%

5.5 The Future of Educational Audiology

There has been an increase in the number of Educational Audiologists registered with the BAEA since 2020-21 when Ash (2021) reported that there were 65 members registered. The BAEA (2023) confirmed that they now had 86 members, and seven of these were associates, retired, overseas or not actively working as Educational Audiologists, leaving a total of 77 working in the sector across the UK. CRIDE (2021) data showed that 68.9 FTE Educational Audiologists were working across the UK, and we know from Ash (2021) and this research that some sensory services have two Educational Audiologists covering the role. The CRIDE survey did not report on Educational Audiologist data in 2022 so the exact figures of Educational Audiologists in the UK are not known at this time.

Service priorities were generally aimed at improving service delivery, audiological skills, succession planning and training, but did not necessarily match financial resources.

This research shows that most sensory services (70%) that do not have an Educational Audiologist would want to have one. The consensus, from the interview phase, prefers this role to be in a coordinating capacity, and to keep the sensory team up to date with audiology (see Table 26), but it is the constraints around service structure, budgets, and lack of awareness by senior LA managers that have created barriers for Educational Audiologists to be employed in more education services.

The Educational Audiology course at Mary Hare in partnership with the University of Hertfordshire, continues to attract around a dozen students (Rosenberg, 2023) with every two-year entry. The question is whether these trained Educational Audiologists are working as Educational Audiologists or just completing the training course. The concern is that a profession like this needs continuous practice to ensure that skills and knowledge are current. The Educational Audiologist will inevitably be de-skilled if not actively practising.

5.6 Strengths and Limitations

This research study focused on a specific group of people within LAs and sensory services – HoSS. The research was dependent on how well the HoSS understood the role of Educational Audiology and what forums they are part of, to enable them to decide to participate in the study. Dissemination of the survey was mainly through the HoSS Forum, therefore if a HoSS was not registered on this forum and was not either a QToD or Educational Audiologist to be able to access the survey from the email lists on BAEA membership or BATOD website pages, then the researcher was missing out on capturing the views of a wider group of HoSS. Eighty-one per cent of HoSS who participated in the research study were from a QToD and Educational Audiologist background, which may have introduced some bias. However, CRIDE (2021), shows that there are 70% of HoSS with QToD status and 30% who are from other disciplines (see section 2.4), which is a close correlation to the mix of the study sample.

5.7 Recommendations for Future Studies

This study focused on the perspectives of HoSS, and from the data collected, for many LAs and sensory services, the Educational Audiology role is not embedded in the operational structure. HoSS who understand the benefits of having an Educational Audiologist as part of their service must justify the necessity to senior managers within LAs. Many top-level managers do not understand the role fully nor the benefits of including such a role within their services. Further research is necessary to validate the role within UK local authorities. The role is not mandatory, and course facilitators continue to promote the role by encouraging memberships, including the BAEA and RCCP.

There is a lack of research into the role of Educational Audiology in the UK. This is unlike the USA, where the Educational Audiology role is validated, and educational services are obligated to provide this role to enable audiology in education – this is how their system works. Despite the role playing some part in deaf education spanning six decades, local authorities and sensory services are still not utilising this role equitably.

Large-scale research aimed at Educational Audiologists in the UK, to capture how they work and use the BAEA roles and competencies could also support shaping how LAs should be utilising this highly expert role. This study focused on the perspectives of HoSS, and they may not have all the information on how their Educational Audiologists work. It would also be beneficial to research how the BAEA roles and competencies document informs the practice of Educational Audiologists. Unfortunately, from this research, the BAEA roles and competencies document has not been used except for supporting HoSS in creating job descriptions for Educational Audiologist recruitment.

6. Conclusion

This research study set out to explore the perspectives of Heads of Sensory Services on the role of the Educational Audiologist in UK local authorities and settings. Data were collected through an online survey that derived 54 responses and was followed by ten semi-structured interviews, selected from the HoSS participants that volunteered to interview.

Despite the role being around in the UK for about 50 years, it is still a role that is not used equitably across local authorities in the UK. Local authority leaders still do not fully understand the benefits of the role within their services, and it appears that it is up to HoSS to ensure that LA leaders understand how the additional qualification can have a positive impact on the outcomes of the entire team, DCYP, families, settings, and health services. The data collected in both phases of the research study shows that the Educational Audiology role is widely known, but not all LAs and sensory services have the role embedded within their practices.

There are difficulties with training budgets and the justification for having an Educational Audiologist, especially as a separate role. Dependent on service size, Educational Audiologist time allocation varies between a day a week to five FTE, and in some services, more than one Educational Audiologist is employed to share the workload. From the research, seven services have embedded the role of Educational Audiologist in their service (see Table 8), and this may be a positive step in the role gaining more recognition in LAs.

This research shows that the role of the Educational Audiologist is very much one that education services have a choice of embedding in their service structure. Senior managers in LAs do not understand how the role can enhance service delivery as well as raise the quality and standards of the audiological aspects of the role. Education services are prone to staff turnover due to retirements, promotions or change of jobs and to maintain high standards, a service structure must have continuity. An awareness of the impact that technology, advice, training, and support have on a CYPD is crucial as research shows that they are achieving less so than their hearing peers (NDCS, 2019).

The role of the Educational Audiologist has been described as ‘instructional’, ‘a service coordinator’ and/ or ‘consultant’ (Johnson & Seaton, 2020), and from this research study, sensory services in the UK that employ an Educational Audiologist view the role in a coordinating capacity. It is usual to emphasise the obvious overlaps and commonalities between QToDs and Educational Audiologists, and some HoSS feared that the latter could lead to a deskilling of the former. However, the Educational Audiologist is most successful when it enhances the QToDs’ role through training, coordination, and freeing them up to focus on their core responsibilities.

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Appendices

Appendix A – Ethics Approval

University of Hertfordshire UH

SOCIAL SCIENCES, ARTS AND HUMANITIES ECDA

ETHICS APPROVAL NOTIFICATION

TO	**Veronica Thorvardarson**
CC	**Dr Imran Mulla and Katie Jillians**
FROM	**Dr Ian Willcock, Social Sciences, Arts and Humanities ECDA Chairman**
DATE	**25/10/2022**

Protocol number:	cSHE/PGT/UH/05743
Title of study:	Educational Audiologists: Exploring the Perspectives of Heads of Sensory Services in England

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 conditions being seen and approved by the supervisor as addressed prior to recruitment and data collection:

- All storage of consent forms, data and recordings must only be on the student's UH-supplied One Drive (i.e., recordings must not be stored on a laptop).
- Data and recordings should be retained until the assessment process is complete (i.e., the exam board has met and confirmed final grades) and then securely deleted.

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.

1

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.

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

Validity:

This approval is valid:

From: 25/10/2022

To: 31/12/2022

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 B - Participant Information Form

You are being invited to complete an online survey as part of a Master's course being undertaken by **Veronica Thorvardarson**, an Educational Audiology student at the School of Education (Mary Hare), 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 18 or over and are employed in the role of Head of Sensory Service (HoSS) for a UK local authority or setting (e.g., special schools).

The Study

The purpose of this study aims to explore in more details the perspectives of HOSS on how the role of the educational audiologists fits into their service. There is a lack of research into the benefits of Educational Audiologists in the UK/ England and the benefits to LAs in general, including the benefits of working partnerships the role can create between health, education, and families. It is unclear currently if ALL HOSS/ LAs have knowledge of this role. This research also aims to find out why the role is not used equitably across all local authorities in England.

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 perspective, as HoSS, on the role of Educational Audiology and how it fits within your service. If you do not have an Educational Audiologist, you can still complete the parts of the survey that refer to services without one. The survey will take you approximately **10 minutes** to complete. At the end of the survey, you will have the option to consent to a 1:1 interview (to happen at a later date) to expand on responses you gave in the survey.
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 will help in establishing a clearer understanding of how the role of the Educational Audiologist fits in with local authority sensory services across the UK. There are no expected risks for participants and the answers you give in the survey will have no impact on your role in your service. 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 on completion of the course in May 2023.

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 **cSHE/PGT/UH/05743.**
If you would like to receive more information and for any other queries about this project you can contact me by email (veronica.thorvardarson@solihull.gov.uk) or my Supervisor, Imran Mulla (i.mulla@herts.ac.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

You may be invited to a follow-up discussion on MS Teams. If you would like to, please fill in your contact details at the end of this survey.

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

Appendix C - Survey Questions (Education Services with an EA)

1 – What is your professional background?

QToD

QTVI

QTMSI

Educational Audiologist

Educational Psychologist

Other

2 – Which region of England is your sensory service in?

- East of England
- East Midlands
- London
- North East
- North West
- South East
- South West
- West Midlands
- Yorkshire and Humber

3 – Which Local Authority do you work for?

_____

4 – How many deaf children and young people are on the entire service caseload?

_____

4b – Does the total caseload include the following:

- Unilateral hearing loss
- Mild hearing loss
- Unaided hearing loss
- Glue Ear
- Auditory Processing Disorder

5 – Is there an Educational Audiologist employed in your service?

YES NO

If YES, how many Educational Audiologists are employed by the service? _____

If your answer is no, has there ever been an Educational Audiologist employed by your service?

YES NO NOT SURE

5b – Does the Educational Audiologist work in this capacity or possess the qualification but does not work in the role for your service?

- Yes, Works as an Educational Audiologist
- No, has a qualification as an Educational Audiologist but does not work in the role

6 – How many days per week does your Educational Audiologist cover in this role?

1 2 3 4 5

7 – Is there an Audiology Technician (supporting audiological tasks) in your service?

YES NO

7b – How many days per week does you Audiology Technician work in this role?

1 2 3 4 5

8 – Which of the following roles and responsibilities are specific to the role of your Educational Audiologist? (perhaps specific examples with a tick box function)

- Child and family support
- Educational assessment
- Advice to schools, access to learning and inclusion
- In-service training to educational and health service professionals
- Advice on amplification systems and room acoustics
- Contribution to the multi-disciplinary team around the child
- Audiological testing
- Maintaining equipment and updating software of radio aid systems
- Liaising with manufacturer representatives
- Contribution to budget management

9 – Which of these roles and responsibilities are expected from your QToDs? (perhaps specific examples with a tick box function)

- Child and family support
- Educational assessment
- Advice to schools, accessing to learning and inclusion
- In-service training to educational and health service professionals
- Advice on amplification systems and acoustics

- Contribution to the multi-disciplinary team around the child
- Audiological testing
- Maintaining equipment and updating software of radio aid systems
- Liaising with manufacturer representatives
- Contribution to budget management

10 – What impact has an Educational Audiologist had on:

Or can ask has having an Educational Audiologist in your service had a positive or negative impact on the following aspects: (perhaps a rating here would be better (excellent, good, somewhat, no impact)

- Your team
  _____
- DCYP and their families
  _____
- Settings
  _____
- Relationships with MDT (e.g. audiology, ENT, paediatrician, S&LT etc)
  _____

Can you expand on your answer? _____

11 – Does your Ed Aud perform any of these tasks as part of their daily role?

- Otoscopy and ear mould impressions
- Audiometry
- Involvement in NHSP
- Joint Clinics with hospital audiology
- Classroom Acoustic Surveys
- Fitting and transparency/ balancing of radio aid systems

12 – Is your Educational Audiologist a member of the following professional groups?

- BAEA (British Association of Educational Audiologists)
- RCCP (Registered Council of Clinical Physiologists)
- Regional association for Educational Audiologists (MEAG, SEAG, NEAG)

13 – Does your Educational Audiologist attend any of the following?

- BAEA regional meetings (virtual or F2F)
- BAEA Annual meetings
- CHSWG
- CI Liaison Meetings
- Hospital Liaison Meetings

14 – How is liaison between health and education organised in your service? (tick all that apply)

- By the HoSS
- By Educational Audiologist
- By the Lead professional for HI
- By Teacher of the Deaf as part of their role
- By Audiology Technician
- Needs further development
- Other (please specify_____

15 – Is there anything you would like to add?

_____

_____

Appendix D – Survey Questions (Education Services without an EA)

1 – What is your professional background?

QToD

QTVI

QTMSI

Educational Audiologist

Educational Psychologist

Other

2 – Which region of England is your sensory service in?

- East of England
- East Midlands
- London
- North East
- North West
- South East
- South West
- West Midlands
- Yorkshire and Humber

3 – Which Local Authority do you work for?

_____

4 – How many deaf children and young people are on the entire service caseload?

_____

4b – Does the total caseload include the following:

- Unilateral hearing loss
- Mild hearing loss
- Unaided hearing loss
- Glue Ear
- Auditory Processing Disorder

5 – Is there an Educational Audiologist employed in your service?

YES NO

If YES, how many Educational Audiologists are employed by the service? _____

If your answer is no, has there ever been an Educational Audiologist employed by your service?

YES NO NOT SURE

5b – Does the Educational Audiologist work in this capacity or possess the qualification but does not work in the role for your service?

- Yes, Works as an Educational Audiologist
- No, has a qualification as an Educational Audiologist but does not work in the role

6 – Are you aware of the role of Educational Audiologists?

YES NO

6b - What is the reason that an Educational Audiologist is not a part of your service?

- Budget Constraints
- Not considered the role within the team
- Audiology Technician takes on audiological tasks

7 – Who in your sensory team is responsible for undertaking the following?

- Child and family support
- Educational assessment
- Advice to schools, accessing to learning and inclusion
- In-service training to educational and health service professionals
- Advice on amplification systems and acoustics
- Contribution to the multi-disciplinary team around the child
- Audiological testing
- Maintaining equipment and updating software of radio aid systems
- Liaising with manufacturer representatives
- Contribution to budget management

8 – Does anyone in your team perform any of these tasks as part of their daily role? YES or NO boxes and what is the role of this person?

- Otoscopy and ear mould impressions
- Audiometry
- Involvement in NHSP
- Joint Clinics with hospital audiology
- Classroom Acoustic Surveys
- Fitting and transparency/ balancing of radio aid systems

9 – Does anyone in your team attend any of the following?

- BAEA regional meetings (virtual or F2F)
- BAEA Annual meetings

- CHSWG
- CI Liaison Meetings
- Hospital liaison meetings

9b – Who is responsible for attending these meetings?

_____

10 – How is liaison between health and education organised in your service? (tick all that apply)

- By the HoSS
- By the Lead professional for HI
- By Teacher of the Deaf as part of their role
- By Audiology Technician
- Needs further development
- Other (please specify_____

11 – Is there anything you would like to add?

_____

_____

The Interview Phase

The interview phase will focus and how and why questions to expand on answers that the voluntary participants gave in the survey. As the researcher, I will read their responses to the survey carefully before constructing any additional questions for the interview phase.

Appendix E – Semi-Structured Interview Schedules

Questions for those with an Ed Aud

1. Greetings and thank you again for agreeing to the interview.
2. Can you tell me a little about the service/ setting you work for?
3. What is the impact of having an Ed Aud?
4. Is the role part of the service structure?
5. In your opinion, do you think an Ed Aud provides additional benefit vs. ToD? [then follow up with what those might be?]
6. How do you employ new Educational Audiologists, if you have done this in your time with any service? Is it advertised as a separate role or included with ToD role? Train a new member of staff?
7. What are the confidence levels of your ToDs to perform audiological tasks?
8. Who supports CPD and training for ToDs?
9. What drove the decision to employ an Educational Audiologist (for those who have had an Ed Aud in the last 3 years)
10. Do you access the BAEA roles and competencies document for guidance?
11. How have you developed good joint working relationships with hospital audiology?
12. What do you think are the main things your Ed Aud should be skilled and knowledgeable in?
13. Tell me about the CPD opportunities your Ed Aud attends to skill up new practice?
14. You mentioned that your Ed Aud has had excellent/ good impact on your team, DCYD, families and MDT working – can you expand a little bit on this / examples?
15. Do you offer any Ed Aud support to neighbouring LAs?
16. How do you see the role of the Educational Audiologist within your service in the future?
17. What do you see as your service's priorities going forward/ in the near future? (Any priority)

Questions for those without an Ed Aud

1. Greetings and thank you again for agreeing to the interview.
2. Can you tell me a little about the service/ setting you work for?
3. What are the confidence levels of your ToDs to perform audiological tasks?
4. Who supports CPD and training for ToDs? How do you upskill your ToDs with knowledge about new technologies and getting refresher training?
5. Do you think there are any weaknesses on the service's/ setting's impact on families, DCYP and MDT working, because there isn't an Ed Aud employed in the role?
6. You mentioned in your responses that you would like an Ed Aud if there were no constraints. What, in your opinion, would be the benefits, and how would they fit within your current team? (Your team appears to be highly skilled in various audiological tasks.)
7. How have you developed good joint working relationships with hospital audiology?
8. Do you ever ask for advice/ support from neighbouring LAs Ed Aud?
9. Have you worked in other services where an Ed Aud was part of the team?
10. You mention that you have had an Ed Aud employed in the service before, can I ask why the role has not been replaced?
11. What was the impact of having an Ed Aud in previous teams?
12. What do you see as your service's priorities going forward/ in the near future? (Any priority)