A Fragmented Profession within the System of Professions: The Experience of the Audiology Professional in the United Kingdom

LIZANNE STEENKAMP

A thesis submitted in partial fulfilment of the
requirements for the degree of
Doctor of Philosophy

QUEEN MARGARET UNIVERSITY

November 2022

Abstract

The main purpose of this study was to explore the lived experience of audiology professionals in the United Kingdom. For the purposes of this study an audiology professional is defined as someone who completed a United Kingdom or International course/training pathway in audiology and who is working in the UK. The definition can include audiologists, hear(ing) care assistants, hearing aid dispensers, hearing therapists and clinical scientists. Audiology professionals working in Higher Education were also included.

Working in two different contexts with similar and dissimilar aspects of role descriptions, as well as boundaries of practice led to the research question: *What is the experience of audiology professionals in becoming and being an audiology professional in the United Kingdom?* The following strands narrowed the focus of the study and helped to identify the appropriate methodological approach:

1. The experience of becoming an audiology professional
2. The experience of being an audiology professional
3. The impact of change in education pathways and service delivery on the audiology professional

The research question was explored through an Exploratory Sequential Mixed Methods approach starting with interviews of eight participants followed by a survey circulated to the wider profession with 329 respondents. Data analysis consists of interpretive phenomenological analysis of the interviews and descriptive statistics for the surveys. The results from both stages will be discussed in relation to the sociology of professions, specifically Abbott's (1988) system of professions with elements of Bourdieu's social world theory (1985).

The results sketch a fragmented profession divided by titles, professional organisations, and regulatory bodies as well as many education pathways across the private sector and the NHS.

Keywords: System of Professions, Becoming an Audiology professional, Being an Audiology Professional, Influence of the Employer, Professional Tribes.

Acknowledgements

Never Give Up!

(Page, 2019)

I remember this picture on the wall of my mother's study in the small town in South Africa where I grew up. A frog fighting for dear life not to be swallowed by a Heron with a caption that read 'Never Give Up'. This was her motto in life, and I owe my determination to complete this study to her. Sadly, mum is no longer here to celebrate with me. She gave me the focus and belief that anything is possible if you put your mind to it. This is for you mum and my brother Deon, who left this earth way too soon. You were both with me at the start of this journey.

My husband, Addie's long enduring patience with this thesis is to be commended and I could not have done it without his love and support. My sister, Mieke, for her support from afar – let's hope there is a graduation at the end of this so you can come and visit.

I cannot thank Dr Mairghread Ellis and Dr Christine Johnson enough for their support and guidance as well as patience as supervisors of this study.

Dr Christine DePlacido for her supervision, often taking the panicked phone calls and talking me out of giving up when I lost the will to live. Dr Jo White for all her support and encouragement over the years and yes, I will be celebrating for 11 years if this goes through.

Finally, the confused and fragmented profession of audiology in the UK for giving me a professional home as well as a wealth of data to explore. May you find your collective voice one day.

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Abbreviations

Allied Health Professional	AHP
Any Qualified Provider	AQP
American Speech and Hearing Association	ASHA
Association for Clinical Scientists	ACS
Association of GI Physiologists	AGIP
Association of Independent Hearing Healthcare Professionals	AIHHP
Association for Respiratory Technology & Physiology	ARTP
Audiology Technicians Group	ATG
British Association of Audiology Technicians	BAAT
British Association of Audiological Scientists	BAAS
British Society of Hearing Therapists	BSHT
British Society of Hearing Aid Audiologists	BSHAA
Certificate of Audiological Competence	CAC
Certificate of Clinical Competency	CCC
Ear Nose and Throat	ENT
Education Qualifications Framework	EQF
Health and Care Professions Council	HCPC
Health Professions Council	HPC
Hearing Aid Council	HAC
Higher Education Institution	HEI
Higher Specialist Scientist Training Programme	HSST
Higher Training Scheme	HTS
Medical Research Council	MEDRESCO
Medical Technical Officer	MTO
Modernising Hearing Aid Services	MHAS
Modernising Scientific Careers programme	MSC
National Health Service	NHS
National School of Healthcare Science	NSHCS
Ordinary or Higher national certificate	ONC/ HNC
Over The Counter	OTC
Public Health institute of Scotland	PHIS
Physiological Measurement Technician (Audiology)	PMT(A)
Public Private Partnership	PPP
Practitioner Training Programme	PTP
Registration Council for Clinical Physiologists	RCCP
Royal National Institute for Deaf People	RNID
Scientific Training Programme	STP
Scottish Credit and Qualifications Framework	SCQF
Society of Audiological Technicians	SAT
Society for Cardiological Science & Technology	SCST
The Electrophysiological Technologists Association	EPTA
University College London	UCL

Chapter One: Introduction

1.1 Introduction

The main purpose of this study was to explore the lived experience of audiology professionals in the United Kingdom (UK). An audiology professional is defined as someone who completed a United Kingdom or International course/training pathway in audiology and who is working in the UK. The definition can include audiologists, hear(ing) care assistants, hearing aid dispensers, hearing therapists and clinical scientists. Audiology professionals working in Higher Education are also included.

Chapter one provides an overview of the origins of this research. It starts with a summary of the journey that began in 2005 with one audiology professional's attempt to understand a new working environment and a new approach to the profession in a different country.

1.2 Origins of the research study

I am a qualified Audiologist and Speech and Language Therapist and trained in South Africa on a course that combined both professions into a 4-year honours degree. My work experience between 2004 and 2007 included clinical practice in South Africa and in Scotland and since the end of 2007, I have been working in Higher Education as a lecturer in audiology.

The experience of working in two different contexts with similar and dissimilar aspects of role descriptions, as well as boundaries of practice, challenged my understanding of and beliefs about the audiology profession I joined in 2004. Discussions about scope of practice with UK colleagues within the audiology profession, highlighted different perspectives and viewpoints about the title of audiologist as well as scope of practice. The range of perspectives and viewpoints were also true when discussing this topic with other health and social care professionals (not Audiologists) to determine their understanding of the audiology profession. Navigating my new working environment and the different audiology professionals was a confusing experience and I began to wonder about the wider impact of the diverse professional context. This experience raised several questions for me around the professional's

experience that included my own, the patient's experience, and recruitment of new professionals to the profession.

Between 2005 and 2011, I identified the topics below which helped to shape the research questions for this study. They are in no particular order.

1. **Level of autonomy as a professional**: From more autonomy to less autonomy. Audiologists in the United Kingdom acted as technicians within Ear, Nose and Throat (ENT) departments.

2. **Curriculum**: From a structured, single graduate pathway to a range of qualification pathways at various educational levels, from vocational to graduate as well as postgraduate.

3. **Links between speech language therapy and audiology:** From a joint curriculum to separate curricula.

4. **Allied Health Professional to Clinical Physiologist and Healthcare Scientist:** From independent Allied Health Professional (AHP) in South Africa to a clinical physiologist, historically working as an audiology technician in the NHS alongside an Ear Nose and Throat consultant to more recently, a subgroup within Healthcare Scientists.

5. **From protected title to no protected title:** From a protected title of audiologist to a context where audiologist is not a protected title.

6. **Regulation:** From one statutory register in South Africa with two protected titles (**Audiologist** and **Hearing Aid Acoustician**) to a profession with one statutory register with two protected titles (**Hearing Aid Dispenser** and **Clinical Scientist**) and two accredited registers (Clinical Physiologist and Healthcare Scientist with audiology as a subcategory).

7. **Division between clinicians from various training pathways:** From a unified profession with different experience levels to a diverse range of professionals with different qualifications, titles, and experience levels.

8. **Control of curriculum design:** From control located within the profession to control located out with the profession e.g., the introduction of Modernising Scientific Careers programme (MSC) by the Department of Health (2010).

These points and my experience of educating future audiologists, helped shape questions that required further clarification, for example:

- how one becomes an audiologist and what it is like being an audiologist in the United Kingdom.
- the many titles in the profession and the differences and similarities between them and how other professionals (including audiology professionals) makes sense of them.
- how course content was determined, and quality assured to ensure the consistency of the professional curriculum.
- how easy it is for potential recruits to join the audiology profession.
- How the patient will know if they are seeing the correct audiology professional and the differences between them.

I was familiar with these aspects in South Africa but not the United Kingdom.

Immersion in the professional context was the next step to explore the questions to gain an understanding of the various historical pathways, and the origins of different professionals/titles. This immersion occurred in parallel to the developmental stages of the study. This parallel journey had the maturation of the professional, from joining a new profession to becoming an expert on the one hand and the development of a researcher and the defining of a question on the other hand, to select the appropriate methodology.

My starting point was two articles published in 2008: the first is an article called 'Training routes in Audiology in the UK – past, present, and future' (Ferguson and Bamford, 2008) and the second an article called 'Audiology education and practice from an international perspective' (Goulios and Patuzzi, 2008). These articles provided a base from which to gather more information and an understanding of the pathways to becoming an audiology professional in the United Kingdom at that time. Ferguson and Bamford (2008) identified three routes, creating different levels of professionals and this division sparked my interest to understand what it was like to become and work as an audiology professional in the UK (figure 1).
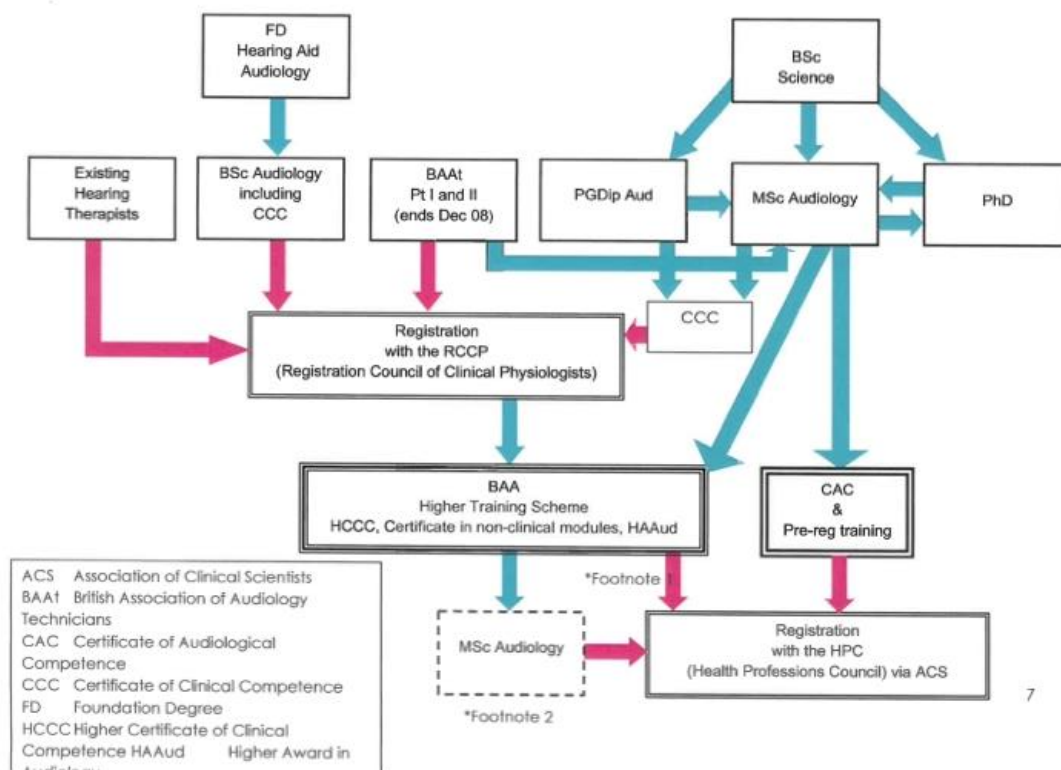
Blue arrows lead to further training, pink arrows to registration.

Footnote 1. To be eligible for registration with the HPC, the ACS require an MSc Audiology, specific HTS elements (HCCC in balance assessment and rehabilitation, paediatric habilitation and adult rehabilitation and first line diagnostic assessment, and BAA certificate in research methods and either service development or teaching and learning) plus four years experience.

Footnote 2. It is theoretically possible for someone who has trained via a route other than an MSc Audiology and then completed all the required HTS elements for ACS eligibility plus has four years experience, to then obtain an MSc Audiology, thus allowing registration with the HPC. Although this is an unlikely training route.

   *Footnotes from figure in article

Figure 1 – Audiology training pathways in 2008 (Ferguson and Bamford 2008, p. 7)

1.3 Thesis structure

This thesis consists of eight chapters with chapter one providing an overview of the origins of this study. Chapter two provides the background to the audiology profession in the United Kingdom until 2009 as supported by existing literature. Chapter three considers events from 2009 onwards while situating it in the broader sociology of the professions, followed by chapter four providing the rationale for this study. Chapter five provides the methodological approach taken to explore the research question with chapter six presenting the results from the interview participants as well as the survey respondents. Chapter seven provides the discussion of the results in relation to the research question.

Chapter Two: Background to the Profession of Audiology in the United Kingdom

2.1 Introduction

Chapter two will focus on the history and regulatory landscape of the audiology profession in the UK. It begins with a summary of the different titles used in the profession followed by the history of the profession in the United Kingdom up until 2009. The aim is to provide further context about the events linked to education and the development of the profession as summarised by Ferguson and Bamford (2008).

2.1.1 Titles and definitions used in the audiology profession

Hearing care can be provided by a variety of professionals and over the years has resulted in a range of titles, for example: audiologists; audiometric technicians; audiometrists; hearing aid acousticians; hearing aid dispensers; audiological scientists; teachers of the deaf; educational audiologists; otolaryngologists and speech language therapists. Jerger (2009) explored the first recorded use of "audiology" and "audiologist" in the United States, and it appeared in various publications from the 1940s onwards. From Goulios and Patuzzi's (2008) study, it is evident that the professional term audiologist is most prevalent in the American, Asian, and Pacific countries as well as all countries that have English as their national language (table 1).

Table 1 – Hearing health care professionals worldwide: the professional titles used by hearing health care providers and the countries in which a specific title is uniquely used (from Goulios and Patuzzi (2008))

Title	Countries
Audiological physician	European countries
Audiological scientist	United Kingdom and some Asian countries
Audiological technician	European and South American countries
Audiologist	title used in many countries worldwide
Audioloog	Netherlands
Audiometrist	English speaking countries
Audio-prothetist	France and Romania
BSc Audiometrist	Norway
ENT technician	Mali
Hearing aid acoustician	European countries
Hearing aid dispenser	English speaking countries
Hearing aid technician	European and African countries

Hearing therapist	United Kingdom, New Zealand, and Scandinavian countries
Fonoaudiologo	Argentina, Panama
Phonoaudiologist	Brazil
Otorhinolaryngologist/ear nose and throat surgeon	worldwide
Speech language therapist/pathologist	Titles used in many countries worldwide
Surdologist	Russia
Teacher of the deaf	Title used in many countries worldwide)
Technician in audiometry	Costa Rica
Technolog medico con mencion en otorrinolaringologia TMORL	Chile

In some South American countries, as well as South Africa and India, a combined qualification for speech language therapy and audiology is typical. In most European countries, training in audiology is completed after Ear Nose and Throat (ENT) specialist training by medical doctors (Baguley, Moffat, and Ramsden, 2006). In some countries, a professional divide exists between the assessment and diagnosis of hearing loss and rehabilitation, as aural rehabilitation is often provided by other professionals such as speech and language therapists and hearing therapists.

The definition of an audiologist in my opinion is best captured by the American Speech and Hearing Association (ASHA). "Audiologists provide patient-centred care in the prevention, identification, diagnosis, and evidence-based intervention and treatment of hearing, balance, and other related disorders for people of all ages. Hearing, balance, and other related disorders are complex, with medical, psychological, physical, social, educational, and employment implications. Treatment services require audiologists to know existing and emerging technologies, intervention strategies, and interpersonal skills to counsel and guide individuals and their family members through the (re)habilitative process. Audiologists provide professional and personalized services to minimize the negative impact of these disorders, leading to improved outcomes and quality of life." (ASHA Scope of Practice, 2018, p. 2).

The definition used by the British Academy of Audiology (BAA) is in my opinion not as comprehensive in comparison. "Audiology is a branch of science that studies hearing, balance, and related disorders. Audiologists treat those with hearing loss and proactively prevent related damage. By employing various testing strategies, audiologists aim to determine whether someone has normal sensitivity to sounds.

Audiology is a tricky profession to summarise in a just a few short lines. If you like a challenge, want to put your knowledge to good use and enjoy working with people of all ages then this may well be the career for you. Audiology professionals can work in a variety of settings including hospitals and private practice; they carry out a wide range of duties including assessment and rehabilitation of people with hearing loss or balance disorders." (BAA, 2022, no page number).

The National Health Service Careers website defines the role of the audiologist according to the roles the professional could fulfil in the NHS and differentiate between them using a range of titles (National Health Service Healthcareers, 2022a). At this point it is important to mention that a range of titles exists in the audiology profession in the UK, often linked to job titles in the National Health Service (NHS) rather than profession related titles. The range of titles are discussed further in the following sections.

For this study the term audiology professional will be used to capture the four titles delivering hearing health care in the private sector, National Health Service (NHS) and in Higher Education Institutes: Audiologist, Hearing Aid Dispenser, Clinical Scientist and Hearing Therapist. Teachers of the Deaf and Educational Audiologists may work privately but most are employed by the education sector supporting individuals with hearing loss. They are however part of the audiology profession in the United Kingdom but not included in this thesis as the focus is on audiology professionals in healthcare settings.

The next section will provide a brief history of the profession covering the evolution of hearing care provision in the National Health Service and the private sector up until 2009 with a focus on the different audiology professionals.

2.2 History of audiology in the United Kingdom

The exact origins of audiology in the United Kingdom are unclear, but the assessment of hearing thresholds can be dated back to 1898 when Sir James Dundas-Grant created a standardised protocol and mechanism to plot results for audiometry (Baguley, Moffat, and Ramsden, 2006). Audiology as a discipline evolved from a collection of professions that include engineering, medicine, physiology, psychology,

speech pathology and teaching (Katz, 2009). In the United Kingdom its evolution can be measured alongside the development of technology to amplify hearing – from ear trumpets in the latter half of the 17th century by William Bull (Brooks, 1989) to the digital hearing aid technology available today. Development of service provision according to Brooks (1989) began around a century after William Bull when F.C. Rein opened his showroom called "The Paradise for the Deaf" (Brooks, 1989: p. 24). Amplification of hearing at the time focused purely on acoustical amplification (ear trumpets) and was followed in the 1930s by the introduction of carbon and valve aids for those who could afford them (Brooks, 1989). Some examples of hearing aids and devices from 1910 till 1960 are in figure 2. Rehabilitative audiology has its origins in the demand for rehabilitation after World Wars 1 and 2 when hearing impaired service men returned home, prompting the development of hearing aid technology (Baguley, Moffat, and Ramsden, 2006).

Figure 2 – (from left to right) Ear Trumpet, Binaural Acoustic Device and Valve aid (The Scottish Hearing Aid Collection, 2022)

2.2.1 Hearing service delivery in the United Kingdom

By 1941 a UK Government committee was established and in 1943 they recommended that "something should be done to make deaf persons (sic) more fit to play their part as useful members of the community" (Brooks, 1989, p. 24). This recommendation led to the establishment of the Committee on Electro-acoustics, by the Medical Research Council (MRC) and ultimately the development of the MEDRESCO hearing aid. This hearing aid was produced at the behest of the government, before the advent of the NHS, and intended for free distribution. Free in the sense that its cost could be carried through statutory taxation and health

insurance. The MEDRESCO hearing aid (figure 3) was the product of specifications by a scientific panel based on large scale clinical trials (Brooks, 1989).

Figure 3 – MEDRESCO Hearing aid (The Scottish Hearing Aid Collection, 2022)

At the time there were concerns in the private sector that the MEDRESCO hearing aid would destroy the private market, but the opposite happened. Demand for hearing aids increased dramatically and the audiology departments in the health service were not able to cope, resulting in three to four year waiting lists and patients looked to the private sector for quicker service. The two decades that followed the introduction of the MEDRESCO hearing aid saw advances in technology and design, keeping cosmetics in mind to make hearing aids less noticeable (Brooks, 1989).

In 1968 a bill was passed to establish the Hearing Aid Council (HAC), in response to the unethical practice of a small minority, particularly what is referred to as "switch selling". Switch selling relies on the response of the customer to adverts for cheap hearing aids and then showing them a hearing aid that was designed to be acoustically and cosmetically unacceptable. This sales technique then created an opportunity to introduce a more acceptable and expensive hearing aid to the customer, often resulting in a sale. The Hearing Aid Council established minimum qualifications and introduced a Code of Practice for Hearing Aid Dispensers as well as a register of professionals (Brooks, 1989).

Sir Keith Joseph, the UK Minister of Health in 1973, announced the phased introduction of a range of hearing aids in the National Health Service programme. At

the same time, he indicated that "the patient must be handled by somebody who understood the problems of the deaf, and who by his training and, if possible, experience would be capable of teaching the patient to use his aid, helping him in his difficulties and generally acting as counsellor and friend." (Brooks, 1989, pp. 25-26). Today, hearing care in the United Kingdom is offered in the National Health Service (NHS) and private sector. Support services for children with hearing impairment in the educational context are delivered by Teachers of the Deaf specialising in educational audiology (Allen, 2011). Educational audiology is not considered part of the role of the Audiologist in the UK, but it is in some countries such as South Africa and the United States.

2.2.2 Education and training pathways in the United Kingdom

The Audiological curriculum differs on an international level. The curriculum appears to be determined by the professionals involved in the field of audiology in a particular country and an article by Goulios and Patuzzi (2008) highlighted the possibility that there are developing countries in the world where it does not exist at all. Katz (2015) describes audiology as Science/Art – the balance between understanding the scientific principles of audiological assessment and management and the ability to work well with people.

Audiology is taught at tertiary level in most countries with significant variations in length as well as level. In Denmark training involves a two-year technical college diploma and in South Africa it is a four-year undergraduate bachelor's degree. In Australia, New Zealand as well as Canada it is a two-year post graduate Masters degree and in America it is a four-year postgraduate clinical Doctorate in Audiology (Goulios and Patuzzi, 2008). In the UK it consists of both undergraduate degrees (two-year Foundation degree/Diploma in Higher Education and three or four-year BSc (Hons)) and post graduate degrees (MSc).

In the United Kingdom, the development of audiology training has often been uncoordinated and piecemeal, shaped by the professionals involved at the time. Between the 1950s and the 1980s, hearing care in the NHS was provided by a mix of professionals through work-based training programmes (Schools of Audiology) and postgraduate level qualifications (Ferguson and Bamford, 2008). From the 1960s, audiologists working in the NHS completed training through the various Schools of

Audiology across the UK, leading to eligibility to join the Society of Audiology Technicians and Therapists (later known as the Audiology Technicians Group of the BSA). Around the 1980s the responsibility for the Schools of Audiology and the training was transferred to the newly formed British Association of Audiology Technicians (BAAT) (Ferguson and Bamford, 2008).

Qualifications from the 80s were a combination of in-service and more formal lectures and practical sessions (combined in an Ordinary or Higher National Certificate (ONC/HNC)) along with professional body exams (British Association of Audiological Technicians, BAAT Parts I and II). The ONC/HNC was replaced by the BSc (Hons) Physiological Measurement (Audiology) and together with the (BAAT) I & II qualification provided training in the practical competencies for the role (Ferguson and Bamford, 2008). This pathway was further supplemented by the existence of registered hearing aid dispensers providing hearing aids in the private sector from 1954, regulated by the Hearing Aid Council from 1968 who introduced minimum qualifications (Brooks, 1989).

From the 50s, 60s and early 70s, a few professionals joined the profession of audiology via a graduate and/or postgraduate route, mostly from a physics or psychology background but with an interest in audiology. This informal route became an established pathway in the 1970s with the introduction of the MSc in Audiology at three universities (first the University of Southampton, followed by the University of Manchester and University College London (UCL)). The MSc in Audiology introduced the Audiological Scientist to the profession (Ferguson and Bamford, 2008). In 1978 it was recognised that the one-year MSc did not allow enough time for the graduate to achieve clinical competency and the British Association of Audiological Scientists (BAAS) introduced an in-service training scheme, the Certificate of Audiological Competence (CAC) in the early 80s. Clinical Scientist became the protected title for audiological scientists in 1999 with the opening of the statutory register (Ngwerume, 2019) and the MSc in Audiology together with the CAC became the recognised route to apply for Health and Care Professions Council (HCPC) (then Health Professions Council (HPC)) registration via the Association for Clinical Scientists (ACS) Route One.

In 1978 a professional called a Hearing Therapist was introduced in response to a committee report of the Advisory Committee on Services for Hearing Impaired People in 1974 expressing "deep concern at the extent to which rehabilitation services for the hearing impaired are lacking in the NHS" (Ferguson and Bamford, 2008, p. 2). The output qualification was a Certificate in Hearing Therapy, which was replaced by an Undergraduate Diploma in Hearing Therapy at Bristol University in 1995 (Casey, 2017). Hearing therapists provide support to individuals struggling with the emotional and psychological effects of hearing loss as well as providing advice on practical solutions to help with communication in every aspect of life, referring to other support services when needed. Some hearing therapists provide vestibular rehabilitation and support with managing tinnitus (RNID, 2022).

By 1997 the occupational groups in audiology consisted of audiological technicians, hearing aid dispensers, hearing therapists and audiological scientists. Table 2 provides an overview of the groups and the related worksite, professionals association, minimum entry qualifications and professional regulations (Ngwerume, 2019).

Table 2 – Audiology by occupational groups in the UK in 1997 (Ngwerume, 2019, p.110)

Occupation	Primary Worksite	Professional Association	Minimum Entry Qualifications	Professional Regulation
Audiological Scientists	Public *	British Association of Audiological Scientists (BAAS)	MSc (Audiology) Certificate of Audiological Competence (CAC)	None
Audiological Technicians	Public **	British Association of Audiological Technicians (BAAT)	BAAT part 1 & 2 ONC (MPPM)	None
Hearing Therapists	Public	British Society of Hearing Therapists (BSHT)	Certificate in Hearing Therapy	None
Registered Hearing aid Dispensers	Private	British Society of Hearing Aid Audiologists (BSHAA)	Hearing Aid Council Exams	Mandatory with the Hearing Aid Council (HAC)

*Clinical Scientists in audiology **Medical Technical Officers*

2.2.3 Improvements in service delivery: The first modernisation programme

In 1999 a document entitled *"Waiting to Hear",* published by the RNID, highlighted the need for audiology services in the NHS to issue digital hearing aids as this was already available privately. The inequality of hearing aid access between the NHS and private sector led to the establishment in 2000 of the Modernising Hearing Aid Services (MHAS) programme. MHAS started as a pilot project in 20 sites across England but expanded quickly to all NHS services in England (RNID, 2001).

The programme successfully provided digital hearing aids to over one million people as well as establishing graduate level training for audiology through the BSc (Hons) Audiology degree in 2002. The modernisation project in Wales started around the same time as the one in England. In 2003 the Scottish Executive commissioned a review of audiology services in Scottish NHS departments to determine the level and quality of services available to patients. This report, called the "Needs Assessment Report of NHS Audiology Service in Scotland" was compiled by the Public Health institute of Scotland (PHIS). It made 43 recommendations for service improvement which then led to the modernisation of audiology services in Scotland.

The PHIS report specifically considered the impact of modernisation on the clinician (see Appendix 1) by recognising that modernisation necessitated a move towards becoming independent clinicians accepting patients through direct referral. The clinician should be responsible for "all aspects of a patient journey, and as providers of technical and diagnostic assessment information to medical specialists" PHIS, 2003, p. 104). This statement indicated a significant change in service delivery in the UK as audiology originally developed as a sub speciality of Ear, Nose and Throat (ENT) services with the role of the Audiologist "restricted to that of information provision with little or no interpretation, and no responsibility for management decisions or implementation" (PHIS, 2003, p. 105). Although the PHIS report (2003) acknowledged the necessity of this shift in the identity of the clinician, it is unclear how modernisation prepared the individual for this change. There is no evidence that the MHAS projects in England and Wales considered the impact on the individual clinician either. The extent of the change involved more than just the role and identity of the clinician but also the rapid advancements in technology with the introduction of digital hearing aids.

The Modernising Hearing Aid Services (MHAS) programme hoped to improve services available to patients by implementing digital technology, but it appears that this process mainly focused on the service and not the individual clinician. It provided training to professionals to improve their use of technology and established degree level undergraduate training for new professionals but there is yet limited evidence to demonstrate awareness of the impact of change on the existing body of professionals. The introduction of PPPs (Public Private Partnerships between NHS audiology services and private hearing aid dispensers) in England created another issue, in that it was grouping together three different professionals (clinical scientist, audiologist and hearing aid dispenser) with different scopes of practice to deliver the same service.

Providing digital hearing aids required a significant upgrade in computer technology and this was not readily available in all areas, thus limiting implementation. The report in 1999 hoped that modernisation would help shorten waiting times for hearing aids but the availability of digital hearing aids and limited technology in clinics resulted in longer waiting times as more patients accessed the service than expected (RNID, 2001). The House of Commons Health Committee Audiology Services Fifth report (2006 – 07) considered the impact of this modernisation on hearing aid waiting times and recommended the introduction of partnerships with the private sector to help with the backlog, as digital hearing aids have been available privately before 2000.

2.2.4 Improvements in service delivery: Impact on education

The four-year BSc (Hons) degree in audiology established profession specific undergraduate level training for audiology in the UK (Ferguson and Bamford, 2008). The first graduates from this new degree entered the workforce in 2006. At this point the undergraduate Diploma in Hearing Therapy was closed. The BSc (Hons) Audiology degree included an in-service clinical training portfolio called the Certificate of Clinical Competency (CCC) designed to support the student on placement. The competency level of the practitioner was defined by the Accreditation of Education and Training Committee of the BAA as someone who: "At the basic competency level ... will be able to assess hearing and provide appropriate intervention for persons over the age of seven who do not have additional disabilities" (RCCP Guidelines for Accreditation) (BAA, 2005, pg. 1). The introduction of the BSc (Hons) in Audiology degree signalled the end of professional body exams as the responsibility for

awarding the degree and ensuring students are competent to practice transferred to the higher education sector (BAA, 2005).

The Certificate of Clinical Competency (CCC) and Certificate of Audiological Competency (CAC) can be differentiated on the level of expected competency on completion, with the CCC on the practitioner level and CAC on the specialist practitioner level. The CAC outcome demonstrates the ability to function on an independent level in paediatric and vestibular competencies compared to the CCC that demonstrates an ability at "assist" level in these areas (Ferguson and Bamford, 2008; BAA, 2005). This difference created a further route to registration for the PgDip / MSc in Audiology graduates who then enrolled on the CCC after the PgDip / MSc and successful completion of the two components resulted in eligibility to register with the Registration Council for Clinical Physiologists (RCCP) as an audiologist (practitioner level) (Ferguson and Bamford, 2008).

By 2002 this resulted in three different possible training routes to registration (figure 1) (Ferguson and Bamford, 2008), creating a mixture of titles in the audiological profession with different registration routes. Until 2002, the terminology used to refer to Audiologists in the NHS ranged from Hearing Aid Technician (before 1969) to Physiological Measurement Technician (Audiology) (PMT(A)) (after 1969) to Medical Technical Officer (MTO) (1989) (Ferguson and Bamford, 2008)

The introduction of the BSc (Honours) Audiology degree as the entry route into the profession was followed by the amalgamation of the three audiology professional organisations (audiology technicians, audiological scientists, and hearing therapy). The years between 1958 and 2004 saw several organisations created and dissolved in the audiology profession, some linked to the Schools of Audiology and education and others focused on representing the various professionals on a national level. In 2004, three of the associations (BAAT, BAAS and BSHT) merged to create the British Academy of Audiology (BAA). Figure 4 provides an overview of the timeline of development of the various associations and table 3 groups the organisations into two categories (Ferguson and Bamford, 2008; Allen, 2011).

Table 3 – Categories of audiology professional associations

Links with education pathways
Society of Audiological Technicians (SAT)
Audiology Technicians Group (ATG)
British Association of Audiology Technicians (BAAT)
British Association of Audiological Scientists (BAAS)
Representative group
British Society of Hearing Therapists (BSHT)
British Society of Audiology (BSA)
British Society of Hearing Aid Audiologists (BSHAA) (*formerly Society of Hearing Aid Audiologists (SHAA)*)
British Academy of Audiology (BAA)
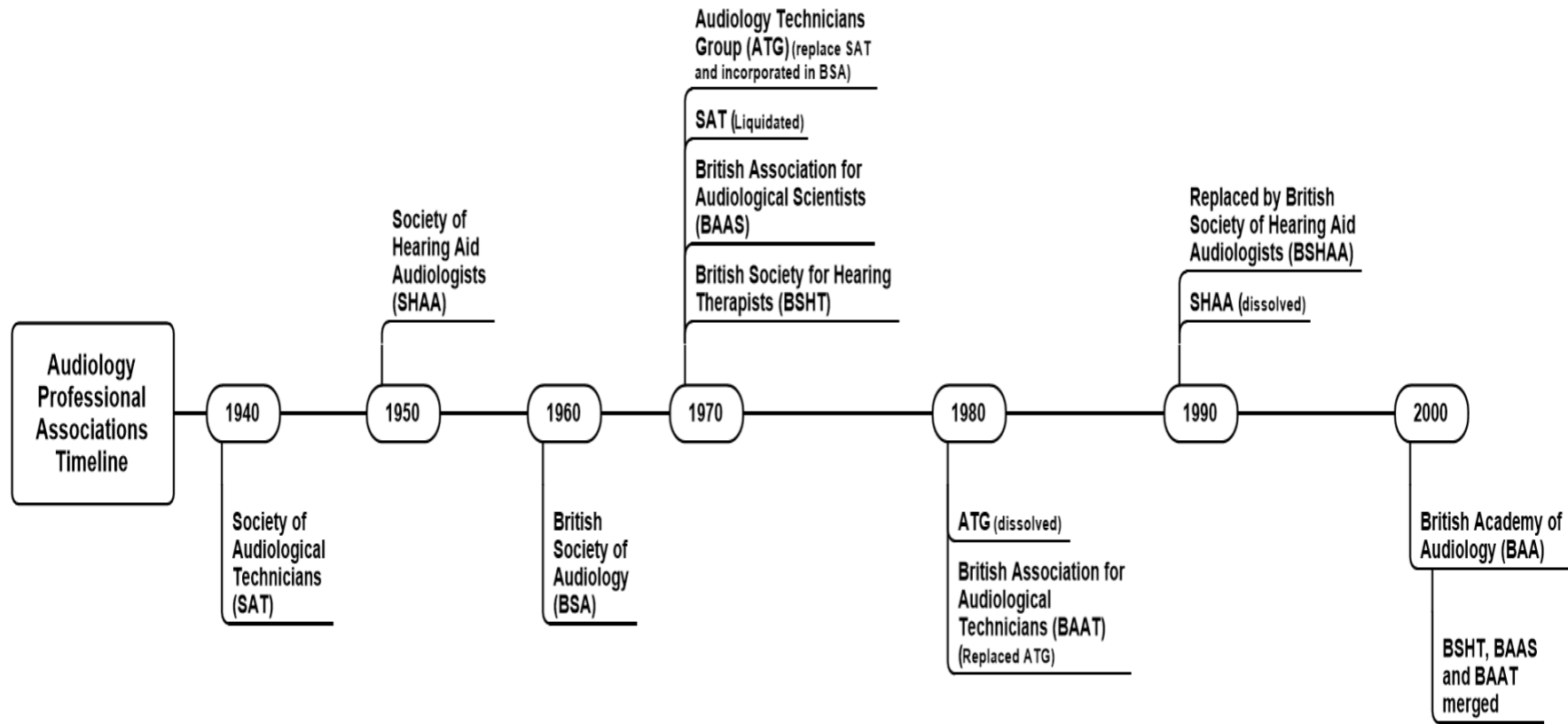
Figure 4 – Audiology professional association timeline (derived from Ferguson and Bamford, 2008; Allen, 2011)

In 2005 the CAC was replaced by the British Academy of Audiology Higher Training Scheme (HTS). The HTS provided a similar route leading to Clinical Scientist registration, but it also provided opportunities for BSc (Hons) Audiology graduates to specialise in the "assist" level competencies (Ferguson and Bamford, 2008).

From 2009, training routes for Registered Hearing Aid Dispensers were established at university level through Foundation degrees in Hearing Aid Audiology in England and a Diploma in Higher Education in Hearing Aid Audiology in Scotland. In 2010 statutory registration with the HCPC was established, and eligible professionals were able to apply for registration with the HCPC under the protected title of Hearing Aid Dispenser (HPC, 2012). Statutory registration also provided associate audiologists working within the NHS with the opportunity of training at tertiary level and then registration as a Hearing Aid Dispenser with the HCPC.

The article by Bamford and Ferguson (2008) provides an overview of audiology qualifications between 1950 and 2009. Figure 5 provides a timeline stretching from 1950 to 2009 indicating when the different audiology education pathways were introduced.

The following section will focus on the regulation of audiology professionals in the United Kingdom between the same period.
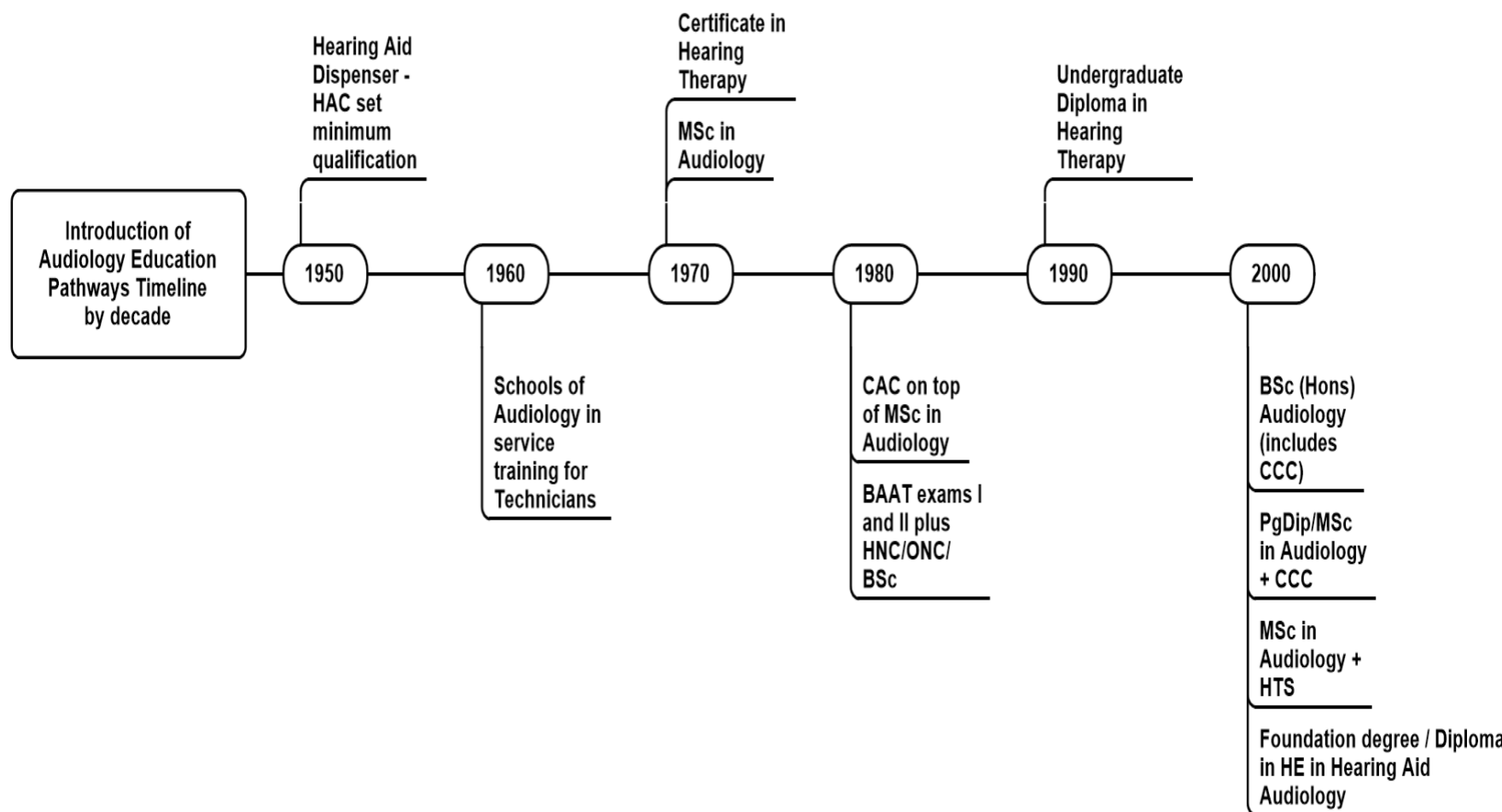
Figure 5 – Introduction of audiology education pathways timeline

2.3 Regulation of the audiology profession in the United Kingdom

An in-depth review of regulation and its reforms in the United Kingdom is not the focus of this thesis, but this section will aim to provide an overview of the regulation of healthcare professions as it exists for the audiology profession in the UK.

The system of professional regulation in the United Kingdom is linked to the country's historical development, creating both opportunities and problems for personalised health care (Moran, in Allsop and Saks, 2002). The opportunities were the creation of lucrative markets in health care and the problems were for existing professions as it created openings for challenge from newcomer professions. This opportunity for challenge led to the introduction of regulation as a measure to govern these lucrative markets, foster trust in potential clients about the competence of the professionals and creating an ordered hierarchy within the health system with medical doctors at the top as part of the *Medical Act 1858*. The role of the state in regulation developed within this political context and it acts as the guardian of authority but at the time it had limited resources to enforce this regulation. The legacy of this system of regulation complicates the role of the state since the 1858 Medical Act was introduced due to the increasing range of health services and technological advancement in health care (Moran, in Allsop and Saks, 2002).

In 2001, in a direct attempt to reform the professions to protect the public the Government began a modernisation agenda (*NHS Reform and Health Care Professions Act 2002*) that included the reform of the General Medical Council, the creation of a new Nursing and Midwifery Council and a new Health Professions Council (Health and Care Professional Council (HCPC) as of 2012) (Allsop and Saks, 2002). A new governing body, Council for the Regulation of Healthcare Professionals (CHRE) was also established as an independent regulatory body for the health professions, increasing accountability to Parliament. The decade following the *NHS Reform and Health Care Professions Act 2002* saw several voluntary regulators established, functioning as limited companies alongside the statutory regulators. By 2012, this governing body (CHRE) had oversight of nine statutory regulators as presented in table 4.

Table 4 – Statutory Regulators and corresponding Acts of Parliament

Regulator	Act of Parliament
The General Chiropractic Council (GCC)	Chiropractors Act 1994
The General Dental Council (GDC)	Dentists Act 1984
The General Medical Council (GMC)	Medical Act 1983
The General Optical Council (GOC)	Opticians Act 1989
The General Osteopathic Council (GOsC)	Osteopaths Act 1993
The General Pharmaceutical Council (GPhC)	Pharmacy Order 2010
The Health and Care Professions Council (HCPC)	Health Professions Order 2001
The Nursing and Midwifery Council (NMC)	Nursing and Midwifery Order 2001
The Pharmaceutical Society of Northern Ireland (PSNI)	Pharmacy (Northern Ireland) Order 1976

2.3.1 Regulation of audiology between 1968 and 2009

Statutory regulation of Hearing Aid Dispensers was introduced in 1968 through the passing of the *Hearing Aid Council Act* (1968), resulting in the formation of the Hearing Aid Council (HAC). The HAC was a statutory regulator set up to register dispensers and their employers working in the private hearing aid sector. This regulatory function was transferred to the HCPC in 2010 when the HAC was dissolved, and the *Hearing Aid Council Act (1968)* was repealed.

The rest of the audiology professionals in the United Kingdom (audiological scientists, audiology technicians and hearing therapists) remained unregulated until 1999 when audiological scientists gained statutory regulation with the HCPC, and Clinical Scientist became the protected title (Ngwerume, 2019). Parliamentary discussions at the time the amendment to the *Professions Supplementary to Medicine Act of 1960* was introduced, raised concerns as to why only clinical scientists were considered and not the rest of the healthcare science workforce. Despite concerns raised, the outcome was to add clinical scientists as a group based on the amount of work already submitted as part of the submission. Delaying the vote would mean denying the group the opportunity to gain statutory regulation until more information could be provided. The addition of clinical scientists to the statutory register without consideration of the whole of the NHS workforce resulted in the divide in regulation of healthcare science as it exists currently.

Statutory regulation of clinical scientists occurred at the same time as discussions began to establish the BSc (Hons) Audiology degree and the amalgamation of the three audiology professional associations (BAAS, BAAT and BSHT) (Ngwerume, 2019). In 2001, voluntary regulation for audiology technicians was introduced by

establishing the Registration Council for Clinical Physiologists (RCCP) as a body under the Companies Act on 16 November 2001 (RCCP, 2001). The RCCP was created through the coming together of 6 professional bodies representing a group of clinical physiologists:

- Audiology: British Association of Audiology Technicians (BAAT)
- Cardiac Physiology: Society for Cardiological Science & Technology (SCST)
- Gastrointestinal Physiology: Association of GI Physiologists (AGIP)
- Hearing Therapy: British Society of Hearing Therapists (BSHT)
- Neurophysiology: The Electrophysiological Technologists Association (EPTA)
- Respiratory Physiology: Association for Respiratory Technology & Physiology (ARTP)

Regulation of clinical physiology professions remains voluntary and the RCCP was established with the aim to achieve statutory regulation. At the time, a prerequisite for the application for statutory regulation was the creation of a voluntary register for individuals practising in the specific discipline. The RCCP aimed to demonstrate professional self-regulation of practice as part of petitioning for state regulation as part of the then newly created Health Professions Council (HPC) (RCCP, 2001). In 2004, clinical physiology was recommended for statutory regulation by the Health Professions Council and the recommendation was accepted by the then Secretary of State for Health, but this position changed with the publication of the Department of Health and Social Care policy paper in 2011, entitled *Enabling Excellence: Autonomy and Accountability for Health and Social Care Staff.* The impact of this policy paper will be considered in the next chapter.

As a result of the many different regulatory changes, by 2009 there were professionals working in audiology that were not registered with any regulator, some registered on the voluntary registers (RCCP) and others on the statutory register (HCPC) as a Hearing aid Dispenser and/or Clinical Scientist. Table 5 provides a summary of the different registration and qualification pathways in audiology in 1997 compared to 2009 (derived from Brooks (1989), Ferguson and Bamford (2008), Casey (2017); Ngwerume (2019); BAA (2017)). There were professionals who were registered with both the statutory regulator and the accredited voluntary register, and dual registration is appropriate when the registrant is employed as an audiologist in the NHS and a

hearing aid dispenser in the private sector. It is however unnecessary when they are employed solely in the NHS but dually registered as an audiologist and a clinical scientist. Not only is dual registration costly for the registrant but it can be confusing if there is a need to raise a concern about a registrant.

2.4 Summary of Chapter Two

Until this point, the narrative account of the audiology profession's history and its regulation provided a chronological account of events until 2009. The next chapter will critically evaluate these events as well as events from 2009 until 2022 in relation to the sociology of the professions.

Table 5 – The different registration and qualification pathways in audiology in 1997 compared to 2009 (derived from Brooks (1989), Ferguson and Bamford (2008), Casey (2017); Ngwerume (2019); BAA (2017).

Occupation		Professional Association		Minimum Entry Qualifications		Professional Regulation	
1997	2009	1997	2009	1997	2009	1997	2009
Audiological Scientists	Clinical Scientists	British Association of Audiological Scientists (BAAS)	British Academy of Audiology (BAA)	MSc (Audiology) plus Certificate of Audiological Competence (CAC)	MSc (Audiology) plus Higher Training Scheme (HTS)	None	Mandatory with the HCPC
Audiological Technicians	Audiologists	British Association of Audiological Technicians (BAAT)		BAAT part 1 & 2 ONC (MPPM) / BSc (Hons) Clinical Physiology	*BSc (Hons) Audiology* / MSc (Audiology) plus Certificate of Clinical Competency (CCC)	None	Voluntary with RCCP
Hearing Therapists		British Society of Hearing Therapists (BSHT)		Certificate in Hearing Therapy	None	None	Voluntary with RCCP
Registered Hearing Aid Dispensers		British Society of Hearing Aid Audiologists (BSHAA) / Association of Independent Hearing Healthcare Professionals (AIHHP)	British Society of Hearing Aid Audiologists (BSHAA) / Association of Independent Hearing Healthcare Professionals (AIHHP)	Hearing Aid Council (HAC) Exams	Foundation Degree in Hearing Aid Audiology / Diploma in Higher Education in Hearing Aid Audiology	Mandatory with the Hearing Aid Council (HAC)	Mandatory with the HCPC

Chapter Three: Professionalisation

3.1 Introduction

In chapter three the UK profession of audiology will be considered as a case study to determine how the broader sociology of the professions might provide a context in which the experience of the audiology professional can be explored. Initially the focus will be on the chronological account of events until 2009 as discussed in chapter two. The first topic to explore is the sociology of the professions.

3.2 Sociology of the professions

The journey to defining a profession can be traced back to the trait and functionalist writers in the 50s and 60s who established the taxonomic approach to understanding professions (Saks, 2012). Since then, various sociological theorists documented their perspectives on how professions come into being, often building on or veering from theorists before them (King *et al.,* 2018). Despite the complexity of determining the definition of a profession, Saks (2012) argues the importance of exploring this definition in relation to the role of knowledge and expertise as well as other characteristics as it is at the "… root of understanding what professions are about and how they operate" (pg. 1).

Historically the term profession originated in the medieval universities, and it referred to the established professions of Law, Medicine, Clergy, and University teaching (Moloney, 1986). Professions such as Architecture, Dentistry, and some branches of Engineering reached professional status in the nineteenth century (Moloney, 1986). In more recent times occupations such as Nursing, Social Work and Pharmacy have challenged the original view by attempting to gain recognition as a profession (Abbott and Meerabeau, 2003) by establishing the boundaries of their specific body of knowledge. This attempt to gain regulation challenged traditional interpretations and views on professions and the roles they play in society.

Over the years Freidson has attempted to define a profession and in 1994, he indicated that he sees the profession as an occupation controlling its own work (expertise and service) that is organised by specific institutions. This definition improved his definition provided in 1970 as it added an element of self-regulation –

the lawful right to control the work. Carr-Saunders (1955, cited in Abbott and Meerabeau, 2003) suggested that there were four types of professions (table 6).

Table 6 – Four types of Professions (Carr-Saunders, 1955, cited in Abbott and Meerabeau, 2003)

Type		Professions
Established professions	Based on theoretical study and a certain moral code of behaviours	Law, Medicine, and the Church
New professions	Based on fundamental studies	Engineering, Chemistry, and the Natural and Social Sciences
Semi-professions	Based on acquisition of technical skills	Nursing, Pharmacy, and Social Work
Would-be professions	Neither theoretical study nor acquisition of technical skills, may require facility with modern practices in business administration	Hospital managers

This study began with one audiology professional's attempt to understand a familiar profession situated within a different history and environment. Part of this journey to understanding is linked to knowing where audiology in the UK is in its journey to becoming a profession, based on sociological theories linked to professions and professionalisation. Saks (1983) defined professionalisation as a specific type of closure achieved by exclusion based on specific credentials. The closure is an approach designed to control and limit entrants into the profession with the aim to protect or enhance the value of the service provided. King *et al.* (2018) identified and summarised six of the theories most relevant to the sociology of the professions and explored them in relation to podiatry. Table 7 provides an overview of these theories and will be used to discuss their application to the profession of audiology in the United Kingdom.

Table 7 – Six theories most relevant to the sociology of the professions as explored in relation to podiatry based on King *et al.,* 2018.

Theory	Summary	Possible application to audiology
Taxonomic (trait and functionalist) approach	The earliest theory that attempted a definition of professions and it explores the elements necessary to be or become a profession. This theory consists of two approaches: trait and functionalist. The trait approach focuses the characteristics (or traits) of a profession to determine if there is a specific set that can be applied to aspiring professions. However, the differences between professions make it difficult to quantify the characteristic of a profession (trait approach) to apply in a general manner. The functionalist approach focuses on the relationship with the public and the functional application of skills and knowledge. The taxonomic approach defines the process of becoming a profession as moving gradually towards an idealistic goal.	The history of the audiology profession up to 2009 appears to follow a linear progression to become a profession. The merger of professional organisations, the introduction of graduate education as well as regulation can be considered as steps towards professionalisation.
Marxian approach	Links between the professions and their respective positions in the capitalist class structure and is based on capitalist relations of production. This theory is based on the different classes within the professions and linked to where different professions find themselves within this class system.	Audiology has its own hierarchical structure within the profession linked to the different titles and tribes. As a profession it does not have the status of medicine for example as it historically functions in a supporting capacity to ENT specialists. So, there is some support for the tribalism, but it depends on the view of who serves whom in that structure. and lacking evidence.
Bourdieu's social world	Looked at the social world as a system made up of different lifestyles and social groups. Objectively it is socially structured with some individuals or groups in more advantageous positions than others, due to specific traits, characteristics, and properties they exhibit. Subjectively it comes down to perceptions and	Audiology struggles to define their own area to facilitate homogeneity. As a profession we lack social capital, and we are not able to create a class or habitus because we do not identify as the same despite sharing similar characteristics

	appreciation of relative power held by the different individuals or groups. Bourdieu considers the proximity of individuals – the closer they are geographically the more they will share and be shaped by the external environment. He considered that individuals or agents will generate their own conditions and systems which act to perpetuate the homogeneity of their defined area. Bourdieu identifies potential resources of power or capital namely economic, social, and cultural. How this capital is distributed between the individuals creates the framework through which the social space can be viewed.	and qualities. Attempts to create homogeneity are evident considering the events up until 2009. Symbolic Capital and power struggles can explain some of the issues between the tribes and with other professions. Audiology has different levels of symbolic power that does not link in with the homogeneity, especially the complex statuary regulation structure and use of titles.
Foucalt's power-knowledge concept	King et al., (2018) focused on Foucalt's work on discipline, disciplinary power, and power-knowledge. Power is linked to the discipline specific knowledge and the ability of the discipline to exert power over a specific area that appears self-contained and naturally isolated. As knowledge changes over time so does the balance of power. In the case of dentistry this is demonstrated by the power over the mouth and teeth resulting in the ability of dentistry to claim it as its own. The ability of professions to claim an area is linked to how they can apply this power to an area in a significant manner.	This relates to hearing and balance for audiology and the ability of the profession to exert power of the knowledge base and we can't exert that power as we are fragmented. There is a broader issue in relation to the power for the ear over the rest of the body which is interesting as you consider the literature around the impact of hearing loss. For Audiology this would involve claiming the area of hearing loss, but it is still closely linked to medicine in the form of the Ear, Nose and Throat specialist limiting the ability of audiology to claim discipline power.
Fournier's Boundary work	Fournier's focus on boundary work consists of 2 parts: 1. **Constitution of a self-defined and independent knowledge base** Professions create their own field of knowledge, and it is not a naturally occurring phenomenon.	Audiology attempted to set up a professional field, but it is fragmented internally by qualifications, employers, and regulation. We are not able to control the field increasing vulnerability.

	2. The labour and division to construct and maintain the profession's role boundaries. Fournier used Weber's social closure concept to identify three types of boundaries between the different professions, the professions, and the client and lastly the profession and the market.	The work on boundaries do resonate within the audiology profession but the fragments are trying to establish boundaries within the profession helped by regulation. The fragmentation is perpetuated in the other two boundaries identified by Fournier.
Neo-Weberian (social closure) theory	This theory focuses on social closure – how emerging and aspiring professions secure and protect their role boundaries while seeking power, status, and income within a historical and socio-political context.	Audiology in the UK is a fragmented profession with various titles and contests within the profession, despite statutory regulation and protected titles. These jurisdictional disputes are affected by historical and changes in service delivery and education pathways. These changes are not within the remit of the profession, representing the external social context. Abbott's (1988) system of professions theory sits within the neo-Weberian social closure theory and considers the external and internal influences on the professions.

Reviewing the six theories presented by King *et al.,* (2018), it is possible to find relevant applications for all six in the narrative account provided in chapter two. The focus of this study is on the context the professional finds themselves in as well as their experience, so it is necessary to explore where the profession is in relation to becoming recognised as a profession.

3.2.1 Professions and Professionalisation

Earlier definitions of professions considered the characteristics (or traits) of a profession to determine if there is a specific set that can be applied to aspiring professions (Abbott and Meerabeau, 2003). Differences between professions make it difficult to quantify the characteristic of a profession (trait approach) to apply in a general manner (Freidson, 1983). Table 8 provides a summary of some of the traits considered by researchers in the attempt to understand the criteria to be a profession (Freidson, 1983; Macdonald, 1995; Abbott and Meerabeau, 2003; Yam, 2004).

Table 8 – Some of the traits of professions as identified by researchers (Freidson, 1983; Macdonald, 1995; Abbott and Meerabeau, 2003; Yam, 2004)

Traits
Profession is based in a body of knowledge
Members have specialised skills and competence in the application of this knowledge
Professional conduct is guided by a code of ethics which is overseen by a body of representatives from within the field itself
Altruistic commitment to service
Personal identity that stems from the professional's occupation

Millerson (cited in Johnson, 1972) surveyed the sociological literature of 21 authors and found no less than 23 different elements to identify a "true" profession, with no two authors identifying the same elements nor is one single element identified across all the lists. Susskind and Susskind (2022) supported the issue with a trait approach as they found limited agreement of what the defining traits are across the different authors considering the professions. Moloney (1986) reviewed the research of 14 authors (table 9) and no one characteristics was shared by all. Knowledge specific to the profession was considered as a characteristic by 10 of the 14 authors (Moloney, 1986).

Table 9 – Characteristics of professions according to selected authors (Moloney, 1986)

Characteristics	Flexner	Carr-Saunders and Wilson	Cogan	Habenstein	Barber	Freidson	Moore	Larson	Greenwood	Goode	Hughes	Schein	Becker	Kornhauser
Knowledge	x	x	x		x		x	x		x		x	x	x
Theoretical Base	x								x					
Altruism	x			x	x									
Code of Ethics	x				x	x			x					
Autonomy						x		x				x		x
Service					x	x				x				
Competence				x										
Commitment														x
Professional Association	x				x					x		x		
Prestige				x							x	x		
Authority						x				x				
Trustworthiness						x		x						

Freidson (1983), Abbott (1988) and Macdonald (1995) also criticised the trait approach and suggested that there should be less focus on what a profession is and more focus on the process of becoming a profession or professionalisation. Professionalisation is thought to be the steps taken by an occupation to be recognised as a profession by society.

Siegrist (1990) refers to professionalisation as the process whereby an occupation or activity becomes a profession and highlights that recognition of the profession by society is relative to a specific society in a particular historic period. This view complicates a trait approach to reviewing the professionalisation of a profession as it does not take account of the context and influences and tended to reflect how the professions wished to be seen rather than displaying their inner nature (Adams, 2010). Table 10 provides a summary of the processes of professionalisation as identified by researchers (Freidson, 1983; Macdonald, 1995; Abbott and Meerabeau, 2003; Yam, 2004)

Table 10 – Some of the processes of professionalisation as identified by researchers (Freidson, 1983; Macdonald, 1995; Abbott and Meerabeau, 2003; Yam, 2004)

Processes
Limiting access through setting boundaries with other professions
Journey to regulation by the state through regulative bargain to maintain monopoly of knowledge
Setting a higher standard for entry into the profession by the introduction of graduate training through Higher Education Institutes

Wilensky (1964, cited in Abbott, 1988) specified that there can be variation in the order of professionalisation where Caplow (1954, cited in Abbott, 1988) preferred a uniform central structure, the profession, which undertakes the functional tasks in the process in specific order. Authors who considered the timeline of professionalisation, proposed a sequence of events and although they differ in the exact sequence, they all have one central theme in common, the coalescence into a group (Abbott, 1988). The chronological events in audiology up until 2009, as discussed in sections 2.2 and 2.3, highlight aspects of professionalisation linked to the taxonomic approach.

Abbott (1988) reviewed the professions literature as a prelude to his proposed theoretical shift to a system of professions. Table 11 is a representation of Abbott's (1988) classification of the existing sociological work by grouping the variations based on their formal properties and substantive differences.

Table 11 – Abbott's (1988) classification of existing sociological work on professionalisation (adapted).

Formal properties		Substantive differences	
Variation	Author	Variation	Author
A series of steps	Wilensky (1964)	Functionalist	Carr-Saunders and Wilson (1933); Marshall (1963); Parsons (1954)
A Sequence of functions	Caplow (1954)	Structuralist	Caplow (1954); Millerson (1964); Wilensky (1964)
Each case is unique	Milerson (1964)	Monopoly	Berlant (1975); Johnson (1972); Larson (1977)
Stages to a steady state	Larson (1977)	Cultural	Arney (1982); Bledstein (1976); Haskell (1984)

In his review, Abbott (1988) considered the process of professionalisation and tested the order proposed by Wilensky (1964, cited in Abbott, 1988) by reviewing 130 American and British professions. He identified the following eight steps:

1. First (national) professional association
2. First governmentally sponsored licensing legislation
3. First professional examinations
4. First professional school separate from some other profession
5. First university based professional education
6. First ethics code
7. First national level journal
8. First accreditation of schools (US) or certification by association (England)

Abbott (1988) found that the order may be true for some of the American professions but not for the British professions. Step number two in Abbott's (1988) order is often one of the final steps to becoming recognised as a profession in the UK, as seen with the addition of Clinical Scientist statutory regulation and Hearing Aid Dispenser regulation discussed earlier. Timmons (2010) equates professionalisation with regulation with recognition of a profession often coming after legislation.

The sequence of professionalisation is therefore not the same for all professions. In his review, Abbott (1988) criticised the general professionalisation concept presented by the authors in table 11, as too focused on the structure of the profession rather than the content. It is his belief that the content or work that professions do provides more information about the formation of the profession. Abbott (1988) also believes that the general professionalisation concept implied that the process moves in one direction, without deviation, towards its aim. Many professions see this as a one-off event but as Zaccagnini et.al. (2021) stated, it is an ongoing process that requires attention and nurture. Timmons (2010) on the other hand, demonstrated how achieving professional status was not all the profession of Operating Department Practitioners (OPD) hoped it would be, casting doubt on the benefit of achieving recognised status. The OPD practitioners hoped that state regulation would result in increased recognition and possibly increased income, but this was not the case.

The concept of professionalisation as it applies to the profession of Audiology will be explored by considering the traits and processes listed in tables 8 and 10. Tables 12 and 13 provide an overview of traits and processes of professionalisation up to 2009 indicating if they were achieved or not achieved in audiology, with supporting evidence.

Table 12 – Traits of Professionalisation as it applies to the Audiology Profession in the UK until 2009

Traits	Achieved / Not Achieved	Supporting Evidence
Profession is based in a body of knowledge	Achieved	It was achieved in the UK with the QAA Benchmark statement for Audiology in 2006.
Members have specialised skills and competence in the application of this knowledge	Achieved	Achieved by the education pathways introduced as well as further training through CAC and HTS
Professional conduct is guided by a code of ethics which is overseen by a body of representatives from within the field itself	Not achieved	This is ill-defined in audiology according to Ngwerume (2019) as there is no one body with profession specific oversight. Oversight improved with the merger of the BAAS, BSHT and BAAT but remains divided now between the private sector (BSHAA) and public sector (BAA).
Altruistic commitment to service	Ongoing	*"Audiologists provide professional and personalized services to minimize the negative impact of these disorders, leading to improved outcomes and quality of life."* ASHA (2018, p 2) This is difficult to measure for the group as the commitment is situated within the individual, so it is assumed.
Personal identity that stems from the professional's occupation	Not achieved	In the UK this is divided by the different titles

Table 13 – Processes of Professionalisation as it applies to the Audiology Profession in the UK until 2009

Processes	Achieved / Not Achieved	Supporting Evidence
Limiting access through setting boundaries with other professions	Achieved	An ongoing process from the 1950s supported by the establishment of specific education pathways achieving some success but still resulting in a range of different professionals within audiology.
Journey to regulation by the state through regulative bargain to maintain monopoly of knowledge	Not achieved	This began with the statutory regulation of hearing aid dispensers in the private sector through the Hearing Aid Council in 1968. Statutory regulation for clinical scientists in 1999 complicated plans for statutory regulation for audiology professionals working in the NHS. This was followed by petitions of various clinical physiology professions to become statutory regulated between 2002 and 2012.
Setting a higher standard for entry into the profession by the introduction of graduate training through Higher Education Institutes	Achieved	The MSc in Audiology followed by the BSc (Hons) in Audiology and Foundation degree and Diploma in Higher Education in Hearing Aid Audiology

In 2009 the profession of Audiology appeared on its way to be recognised as a profession with statutory regulation, protected titles for all professionals and code of conduct still outstanding but possibly within reach.

Ngwerume (2019), explored professional development in UK Audiology in the context of public health management reforms between 1997 and 2016 and found that Audiology was significantly influenced by the state within this period. This was part of the state's attempts to improve access to hearing health care and demonstrates how the low status and small size of a profession can make it more susceptible to influence. Recommendations from Ngwerume's (2019) thesis suggested the exploration of the division of labour within clinical practice, more specifically between ENT and Audiologists but neglected to consider the division of labour between the different types of audiology professionals (audiologist, hearing aid dispenser, hearing therapist and clinical scientist).

3.3 History of audiology in the United Kingdom from 2009

At this point events affecting education and service delivery between 2009 and 2022 are explored to expand the narrative provided in chapter two.

3.3.1 New education and training pathways in the United Kingdom

In November 2008, the Department of Health (DOH) published a document for consultation, outlining proposed changes to the training of Health Care Scientists called *The Future of the Healthcare Science workforce, Modernising Scientific Careers: the next steps*. In this document, audiology was grouped with Neurophysiology and Vision Sciences. It was proposed that future students will train on a rotational basis over a period of three years in these three professions. It was thought that this would support professionals working between the three professions if the service demanded it. The Department of Health viewed this as a mechanism to ensure adequate staffing in Healthcare Science workforce with the flexibility to adapt to service need. During the consultation period this raised several concerns with each of the healthcare science professions as professional bodies thought this may not be fit for purpose (Casey, 2010). In audiology there was concern that the aim of creating a professional that can rotate between three professions as the service demands it, might dilute the professional knowledge and in the end affecting patient care.

In February 2010, the Department of Health published a report called *Modernising Scientific Careers: The UK Way Forward.* This report presented the outcome of the consultation period and discussed proposed routes for undergraduate and postgraduate training in Healthcare Science, as well as specifying the curriculum for 51 professions contained within Healthcare Science. The new structure allowed for more specialisation in each profession and some generic content. It was recommended that the first year contain generic content applicable to all three professions to allow some flexibility at the end of that year when students decide which profession, they want to specialise in. The aim of the Modernising Scientific Careers programme was to provide a uniform education framework and career progression structure, introducing new educational awards at all levels of the Education Qualifications Framework (EQF) for England, Wales and Northern Ireland and the Scottish Credit and Qualifications Framework (SCQF) (Department of Health, 2010). The educational awards included the practitioner training programme (PTP),

Scientific Training Programme (STP) and Higher Specialist Scientist Training Programme (HSST).

The PTP was a new three-year BSc (Hons) degree in Healthcare Science (with specialisation in audiology) introduced in place of the existing four-year BSc (Hons) Audiology degree. However, the curriculum designers did not appreciate the difference between the academic year and a standard calendar year and designed 52 weeks of teaching/placement for each of the three years in the curriculum. The difference between the educational frameworks used in England, Northern Ireland and Wales and the framework used in Scotland was not considered as it is not possible to offer three-year honours degrees in Scotland. This curriculum shift posed some challenges to Higher Education Institutions (HEIs) including but not limited to:

- students may have to move to another university as all three professions may not be available in one centre.
- it complicated recruitment of students considering the new fees announced for undergraduate courses in England and loss of placement funding support.
- it required condensing three years of specific content to be taught in two years.

The STP is a full-time, three-year programme which integrates a part-time MSc in Clinical Science with work-based learning and the HSST is a Doctorate level programme (NSHCS, 2022). From 2017 onwards, students in England were also able to enrol on an apprenticeship pathway running alongside the BSc (Hons) Healthcare Science (Audiology) PTP programme (Institute for Apprenticeships and Technical Education, 2022). Apprenticeships in Healthcare Science are available on education framework levels four, five and six with an additional apprenticeship for Hearing Aid Dispensers at level five (Institute for Apprenticeships and Technical Education, 2022). The apprenticeships offer an employed route as students complete the course part time while working in healthcare science.

In 2018, a BSc (Hons) in Audiology (top up) degree was introduced and accredited, providing a mechanism for Foundation degree and Diploma in Higher Education graduates to progress from Hearing Aid Dispenser to Audiologist. Audiologists wishing to work in the private sector but without an HCPC approved qualification can complete a HCPC approved aptitude test (BSHAA, 2022).

Table 14 provides a summary of the links between Education level, MSC programme and award title, the Healthcare Science Career Framework (appendix 2), and the alternative awards in audiology available from 2010 onwards.

Figure 6 provides an updated version of the Ferguson and Bamford (2008) audiology training pathways, indicating the many routes available to become an audiology professional in the audiology profession in the United Kingdom in 2022.

Table 14 – Links between level of education, the courses within the MSC programme, the HCS career framework and alternative audiology awards available (derived from Steenkamp, 2014; DH, 2010; Skills for Health, 2010)

Level of Education	Modernising Scientific Careers (MSC) programme	Education award title MSC	HCS Career Framework	Alternative awards in audiology (from 2010 onwards)
Doctorate level	Higher Specialist Scientific Training Programme (HSST)	Doctorate in Clinical Science (DClinSci)	Consultant clinical scientist (Career level 8 and 9)	PhD / Professional Doctorate / Audiology Doctorate (US)
MSc level	Scientist Training Programme (STP)	MSc in Clinical Science	Clinical scientist (Career level 6 and 7)	*MSc in Audiology + HTS **
BSc level	Practitioner Training Programme (PTP)	BSc (Hons) in Healthcare Science (Audiology)	Healthcare science practitioner (Career level 5)	*BSc (Hons) Audiology (Top up) / PgDip/MSc in Audiology + CCC**
Foundation degree / Diploma in Higher Education / Higher National Diploma	Associate Training programme	Healthcare Science Diploma Level 4	Healthcare science assistant and associate (Career level 1 – 4)	Foundation degree in Hearing Aid Audiology / Diploma in Higher Education in Hearing Aid Audiology
Higher National Certificate / Certificate in Higher Education	Assistant Training programme	Healthcare Science Certificate Level 2		Hearing Care assistant

This alternative award in audiology allows for pre-registration MSc entry at practitioner level.
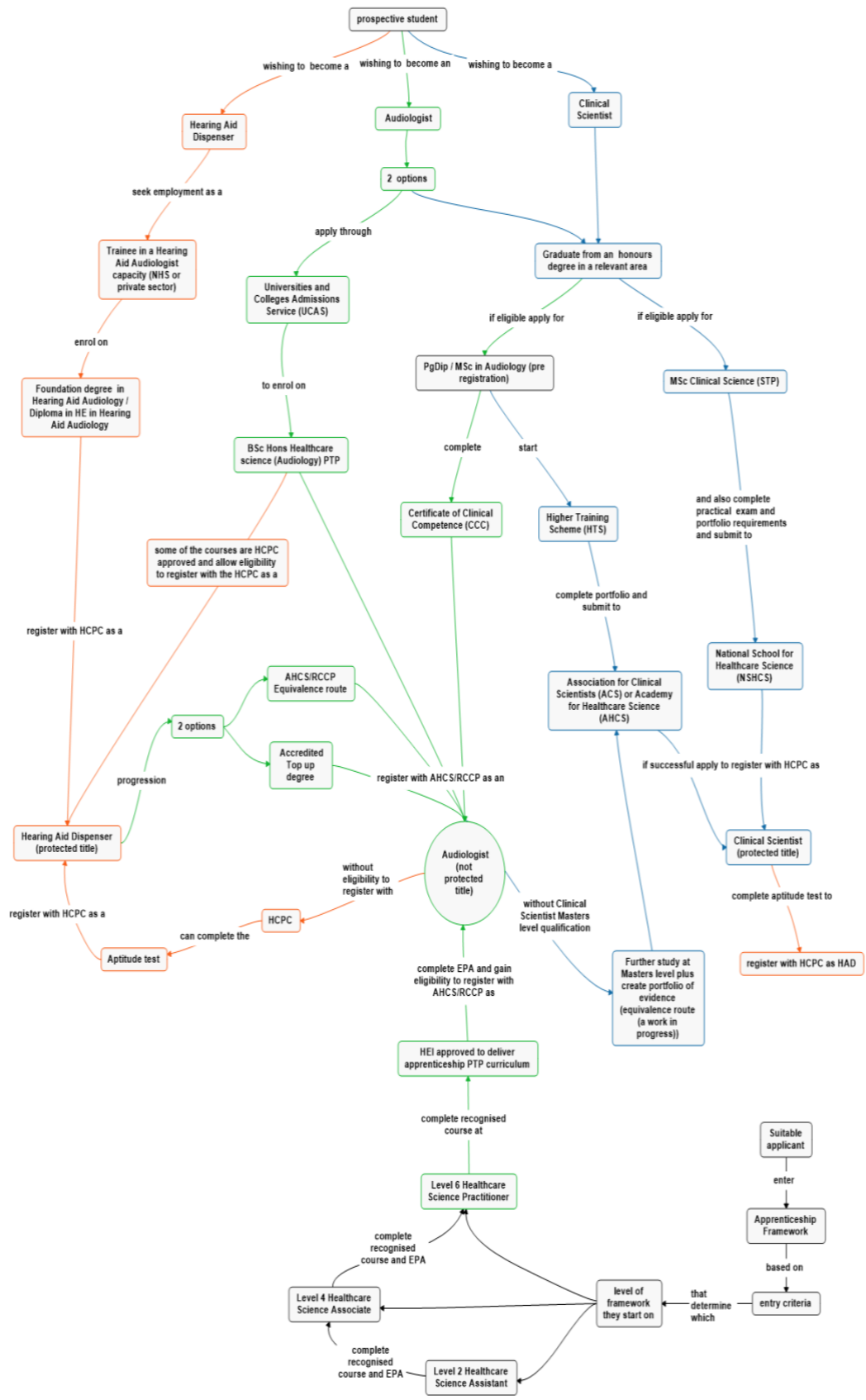
Figure 6 – Audiology education pathways in 2022

3.3.2 Improvements in service delivery: Any Qualified Provider (AQP) Scheme

The Department of Health in England published a document in July 2011, entitled *"Operational Guidance to the NHS on Extending Patient Choice of Provider"*. This document provided guidance on the implementation of the *"Any Qualified Provider"* (AQP) project. This project identified eight priority services, one of which was adult hearing aid services, and its aims are to enable patients to choose the provider of their care. The Department of Health hoped that service quality will improve through AQP because patients are offered a choice in the service they want to access. The service in question will have to compete with other services in the area creating competition for audiology between the NHS provider and the private sector. Considering the range of audiology professionals and levels of specialism provided in hearing care across the private and public sector, there is a concern about the patient's ability to decide which service to access.

In the NHS, the audiology profession in the United Kingdom is currently divided into assistant audiologists, associate audiologists, audiologists, clinical scientists, and some hearing therapists. In the private sector the profession consists of hear(ing) care assistants and hearing aid dispensers.

3.3.3 Regulation of audiology after 2009

The 2011 Social Care policy paper, entitled *Enabling Excellence: Autonomy and Accountability for Health and Social Care Staff* indicated that regulation of further groups by the Government will only be considered 'in exceptional circumstances', where there is a 'compelling case' and where voluntary registers are considered insufficient to manage the risk involved (DHSC, 2011).

In 2011, the Academy for Healthcare Science was established as the single overarching regulator for Healthcare Science, as part of the Modernising Scientific Careers Programme (Companies House, 2022). Between 2011 and 2021 audiology professionals who were not eligible to register on the HCPC statutory registers had the option to register with the RCCP and/or the AHCS.

The *NHS Reform and Health Care Professions Act 2002* was amended in 2012 to facilitate the name change of the Council for the Regulation of Healthcare

Professionals (CHRE) to the Professional Standards Authority for Health and Social Care (PSA) (PSA, 2022) The amendment brought with it two further changes, the first giving the PSA financial independence from the government in the form of a statutory levy payable by the regulators they oversee and the second by granting powers to accredit voluntary registers and regulator council appointments (PSA, 2022). The advantages and disadvantages of the additional changes are summarised in table 15. Both the AHCS and RCCP are accredited by the Professional Standards Authority (PSA) and act as accredited voluntary registers.

Table 15 – The advantages and disadvantages of the further changes granted to the PSA

Advantages	Disadvantages
Creating registers for professions without the need for legislation	Registration remains voluntary as there is no statutory requirement to register
Improves patient safety as accredited voluntary registers can be created	Registration remains voluntary so patient safety is still at risk
PSA receives financial independence from the government	Statutory levy payable by regulators may result in increased annual fees payable by registrants
Registrants removed from the register via Fitness to Practice procedures are not able to join another accredited register	Registration remains voluntary so practice can continue unless checked by employer

The introduction of the amendments to the Act indicated a shift in focus from statutory regulation to that of a risk-based model involving the accreditation of voluntary registers. The move to a risk-based model was reinforced by a response on behalf of Government to a parliamentary question on plans to regulate physician associates, advanced critical care practitioners, surgical care practitioners and other new roles. Baroness Chisholm of Owlpen, outlined that "The Government is committed to supporting the development of a modern health and care workforce as part of the continuing drive to provide safe, accessible, and high-quality care for patients and service users. The extension of statutory regulation to currently unregulated groups will only be considered where there is a solid body of evidence demonstrating a level of risk to the public which cannot be addressed through other means of assurance, including Accredited Voluntary Registers" (Chisholm of Owlpen, Baroness, 2017).

The risk-based approach to regulation is somewhat flawed in the case of audiology as the diverse range of professionals providing hearing care are governed by both

statutory regulator and accredited voluntary registers. The approach implies that there is a recognised need for statutory regulation for some of the hearing care provided by the professionals but not all. Figure 7 provides an attempt at a visual representation based on the range of professional titles used in the audiology profession in the UK. The overlap in the titles bar refers to overlap in skills and knowledge with increasing specialisation of hearing care provision and the overlap in the regulation bar refers to those professionals registered with more than one register. To be both a Clinical Scientist and a Hearing Aid Dispenser requires dual registration with the HCPC. Dual registration as an Audiologist and Hearing Therapist with the AHCS / RCCP is possible but does not require separate registration profiles. This divide is possibly the unintended consequence of the historical sequence of regulation as discussed before.
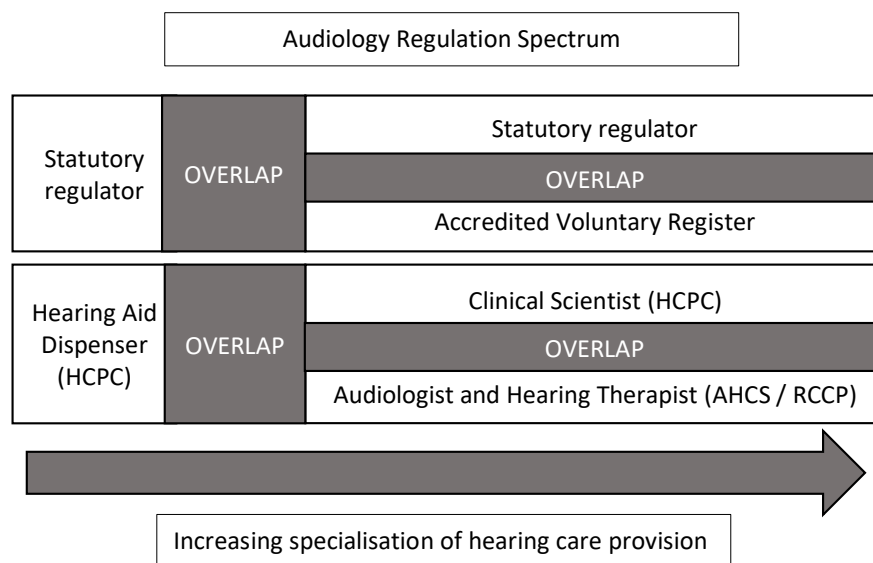
Figure 7 – Audiology regulatory spectrum

Table 16 provides an update of the different registration and qualification pathways available in audiology as well as professional bodies from 1997 as presented in Ngwerume (2019). As a result of the many different regulation changes, there are professionals working in audiology that are not registered with any regulator, some registered on the accredited voluntary registers (AHCS and RCCP) and others on the statutory register (HCPC) as a Hearing aid Dispenser and/or Clinical Scientist. There are professionals who are registered with both the statutory regulator and the accredited voluntary register, and dual registration is appropriate when the registrant is employed as an audiologist in the NHS and a hearing aid dispenser in the private

sector. It is however unnecessary when they are employed solely in the NHS but dually registered as an audiologist and a clinical scientist. In May 2021 the RCCP became a wholly owned subsidiary of the AHCS (RCCP, 2021) which should simplify the regulation landscape.

Table 16 – The different registration and qualification pathways in audiology in 1997 and 2009 compared to 2020 (derived from Brooks (1989), Ferguson and Bamford (2008), Casey (2017); Ngwerume (2019); BAA (2017)

Occupation			Professional Association			Minimum Entry Qualifications			Professional Regulation		
1997	2009	2020	1997	2009	2020	1997	2009	2020	1997	2009	2020
Audiological Scientists	Clinical Scientists		British Association of Audiological Scientists (BAAS)	British Academy of Audiology (BAA)		MSc (Audiology) plus Certificate of Audiological Competence (CAC)	MSc (Audiology) plus Higher Training Scheme (HTS)	MSc (Audiology) plus Higher Training Scheme (HTS) / Scientist Training Programme (STP)	None	Mandatory with the HCPC	
Audiological Technicians	Audiologists		British Association of Audiological Technicians (BAAT)			BAAT part 1 & 2 ONC (MPPM) / BSc (Hons) Clinical Physiology	*BSc (Hons) Audiology* / MSc (Audiology) plus Certificate of Clinical Competency (CCC)	MSc (Audiology) plus Certificate of Clinical Competency (CCC) / BSc (Hons) Audiology (Top up) / BSc (Hons) Healthcare Science (Audiology)		Voluntary with RCCP	Voluntary with RCCP or AHCS
Hearing Therapists			British Society of Hearing Therapists (BSHT)			Certificate in Hearing Therapy	None	New pathways in development alongside Postgraduate training in Hearing Therapy		Voluntary with RCCP	Voluntary with RCCP or AHCS
Registered Hearing Aid Dispensers			British Society of Hearing Aid Audiologists (BSHAA) / Association of Independent Hearing Healthcare Professionals (AIHHP)	British Society of Hearing Aid Audiologists (BSHAA) / Association of Independent Hearing Healthcare Professionals (AIHHP)		Hearing Aid Council (HAC) Exams	Foundation Degree in Hearing Aid Audiology / Diploma in HE in Hearing Aid Audiology	Foundation Degree in Hearing Aid Audiology / Diploma in HE in Hearing Aid Audiology / Aptitude test	Mandatory with the Hearing Aid Council (HAC)	Mandatory with the HCPC	

3.4 Professionalisation of audiology in the United Kingdom after 2009

In 2009 the profession of audiology appeared on its way to be recognised as a profession with statutory regulation, protected titles for all professionals and code of conduct still outstanding but possibly within reach. However, at the time of writing these traits and processes have not been achieved so it can be assumed that professionalisation of audiology is not a linear process. Tables 12 and 13 have been updated to include events after 2009 (tables 17 and 18).

Table 17 – Traits of Professionalisation as it applies to the audiology profession in the UK

Traits	By 2009		After 2009
	Achieved / Not Achieved	**Supporting Evidence**	**Disruption**
Profession is based in a body of knowledge	Achieved **then disrupted**	It was achieved in the UK with the Benchmark statement for audiology in 2006.	Disrupted by the introduction of the Modernising Scientific Careers programme in 2010.
Members have specialised skills and competence in the application of this knowledge	Achieved **then disrupted**	Achieved by the education pathways introduced as well as further training through CAC and HTS	
Professional conduct is guided by a code of ethics which is overseen by a body of representatives from within the field itself	Not achieved **and disrupted**	The code of ethics is ill-defined in audiology according to Ngwerume (2019) as there is no one body with profession specific oversight. Oversight improved with the merger of the BAAS, BSHT and BAAT but remains divided now between the private sector (BSHAA) and public sector (BAA).	
Altruistic commitment to service	Ongoing	*"Audiologists provide professional and personalized services to minimize the negative impact of these disorders, leading to improved outcomes and quality of life."* ASHA (2018, p 2) Altruistic commitment is difficult to measure for the group as the commitment is situated within the individual, so it is assumed.	
Personal identity that stems from the professional's occupation	Not achieved **and disrupted**	In the UK personal identity is divided by the different titles	Further complicated by the introduction of the Modernising Scientific Careers programme in 2010.

Table 18 – Processes of professionalisation as it applies to the audiology profession in the UK – impact of events after 2009

| Processes | By 2009 | | After 2009 |
	Achieved / Not Achieved	Supporting Evidence	Disruption
Limiting access through setting boundaries with other professions	Achieved **then disrupted**	An ongoing process from the 1950s supported by the establishment of specific education pathways achieving some success but still resulting in a range of different professionals within audiology.	Further complicated by the introduction of the Modernising Scientific Careers programme in 2010.
Journey to regulation by the state through regulative bargain to maintain monopoly of knowledge	Not achieved **and disrupted**	This journey began with the statutory regulation of Hearing Aid Dispensers in the private sector through the Hearing Aid Council in 1968.\n\nStatutory regulation for Clinical Scientists in 1999 complicated plans for statutory regulation for audiology professionals working in the NHS.\n\nStatutory regulation of clinical scientists was followed by petitions of various clinical physiology professions to become statutory regulated between 2002 and 2012.	Thwarted by the state in 2012 with the move to a risk-based model for regulation
Setting a higher standard for entry into the profession by the introduction of graduate training through Higher Education Institutes	Achieved **then disrupted**	The MSc in Audiology followed by the BSc (Hons) in Audiology and Foundation degree and Diploma in Higher Education in Hearing Aid Audiology	Disrupted by the introduction of the Modernising Scientific Careers programme in 2010.

Both traits and processes of professionalisation identify two external events that disrupted the profession's attempts at achieving professionalisation. The first is the introduction of the Modernising Scientific Careers programme in 2010 and the second the change in the UK regulation model in 2012. These events were both out with the control of the profession demonstrating that professionalisation as described by the sociology of the professions is not a unidirectional process but dynamic in nature. The ability of these two external events to disrupt the professionalisation of the audiology

profession demonstrates the complexity of using the traits and processes of professionalisation to contextualise the profession's journey over time.

The first event, Modernising Scientific Careers (MSC), was introduced by the state but was based on the needs of the National Health Service (NHS) as an employer and not based on the development of the profession. In the audiology profession this focus on the NHS creates a tension due to the ability of clinicians to work in the private sector as well as the NHS. The audiology professional's role in the private sector was not considered in the design of the MSC programme.

The second event that introduced a new regulatory model is based on the needs of the state intended to move away from legislative change and bureaucracy needed for regulation. Regulation of professions structures the relationships between the profession and the state, the public as well other professional groups by providing legal status and a protected title delineating the scope of practice at the same time (Adams, 2010). The new regulatory model introduced in 2012, effectively prevented the audiology profession from addressing the confusion around titles and scopes of practice within the profession, the wider healthcare arena, and the public.

Applying the taxonomic approach to audiology is somewhat idealistic and it is limited when considering different contexts as well as a specific time in history. It assumes it is linear trajectory and does not account for dynamic development of professions or explain why some never achieve it nor does it consider the impact of external influences. One of the strengths of the taxonomic approach is the acknowledgement of the importance of knowledge and expertise in the recognised professions but as Saks (2012) points out the approach often used this as a form of league tables to compare professions. The taxonomic approach has been criticised for assuming the characteristics rather than providing empirical evidence to support their existence as part of "reflexively presenting professional ideology rather than reality" (Saks, 2012, p. 2)

Zaccagnini *et al.* (2021) explored the professionalisation of Respiratory Therapy in Canada reflecting on the impact of the coronavirus (COVID-19) pandemic on the professional recognition of respiratory therapists (RTs). The impact of the coronavirus on the respiratory system catapulted the profession into the limelight as they became

key members in the management of patients with the virus. This state of transition is an example of events outside a profession influencing its professionalisation. Zaccagnini *et al.,* (2021) used Abbott's (1988) system of professions theory as a lens to explore the professionalisation of the RT profession. Respiratory therapists in the UK share some commonalities in their professionalisation journey with UK audiology professionals in that both remain unregulated as clinical physiologists.

There is an affinity with the system of professions theory (Abbott, 1988) when considering the professionalisation of audiology in the United Kingdom. The affinity is linked to the continued division of labour within the profession between the different types of audiology professionals (audiologist, hearing aid dispenser, hearing therapist and clinical scientist) and the impact of the dynamic environment in which they work.

The work of Abbott (1988) sits within neo-Weberian theory which is a sociological perspective that draws on the work of Max Weber to explain the development and dynamics of professional groups. Neo-Weberians argue that professions are not simply autonomous groups that pursue their own interests but are also shaped by broader social and economic forces. Key concepts within neo-Weberian theory are hierarchy and the factors that influence it (Johnson, 1972; Abbott,1988), Professional status and its determinants (Abbott, 1988; Johnson, 1972, Freidson, 1986) and the negotiation and contestation of professional status (Johnson, 1972; Abbott, 1988).

Neo-Weberian writers considers professionalisation of professions as using credentialism as a type of social closure to control and limit the supply of applicants to the profession to protect its value to the market (Saks, 1983). An additional advantage of using the neo-Weberian approach in relation to the taxonomic approach, lies in the ability to sufficiently explore the dynamic development of a profession as it can analyse the socio-political conditions under which a profession develops (Saks, 1983). However, Saks (1983, 2012) emphasises the need for neo-Weberian writers to apply rigorous examination of the conditions of professionalisation to ensure empirical sustainability.

The system of professions theory of Abbott (1988), and Bourdieu's social world provide frameworks for understanding the dynamics of professional groups by

considering how professions are structured, how they acquire and maintain status, and how they compete for clients, resources, and influence.

3.5 The System of Professions

In 1988, Abbott proposed a theory to study the professions that moved the focus away from the organisational steps taken to become a profession (professionalisation) and rather focused on the work they do within the larger context in which they develop (system of professions). To understand the progress of a profession we must consider the social and professional surroundings as well as the processes it uses to interact with those surroundings (Abbott, 1988). Abbott believed that professionalisation is not a unique directional process but is dynamic and it means that professions do not develop in isolation from each other. In short, the profession cannot be studied without the environment in which it develops or exists because it is influenced by that same environment – specifically the social, professional, and economic environment (Abbott, 1988; Zaccagnini *et al.*, 2021). This viewpoint was a shift away from previous studies that focused on the common process of development shared by professions (or professionalisation) (Abbott, 1988), as discussed before.

Studying professions in isolation considers the development of the professional structure, but not the impact of interprofessional competition and the profession's activities and the larger context in which these activities occur (Abbott, 1988). These activities or work are under the control of the profession as it claims control of knowledge and its application – the claim of jurisdiction. There is competition between professions for control of the work (what, when and how) and new professions develop when there are vacant jurisdictions. Vacant jurisdictions can be newly created or develop as the result of one profession leaving the jurisdiction or losing its firm grip on it, creating a chain reaction. When a profession occupies a vacant jurisdiction, it may leave one area or at the very least retain some supervisory control over it, resulting in an opportunity for another profession to enter the vacant jurisdiction or even compete for it (Abbott, 1988). Interprofessional competition provides a real-life explanation for how professions come about within the system of professions.

The system of professions views the professions as interdependent but contained in an ecosystem, connected by their tasks at the system level. Movement of one profession in any direction affects the profession or the tasks next to it. Above the

system level the professions are exposed to larger social forces within specific conditions and below the system level we see the internal differentiation of the profession and the impact on the system (Abbott, 1988). The balance within the ecosystem can be disturbed by the forces above or below the system level and examples include changes in technology or organisations, bringing about jurisdictional contests (Abbott, 1988). Drennan *et al., (*2017*)* referred to three jurisdictional contests that shape professions according to Abbott (1988). They are inter-professional, intra-professional and the influence of state agency and societal change. Figure 8 is a visual representation of the system of the professions based on Abbott (1988).
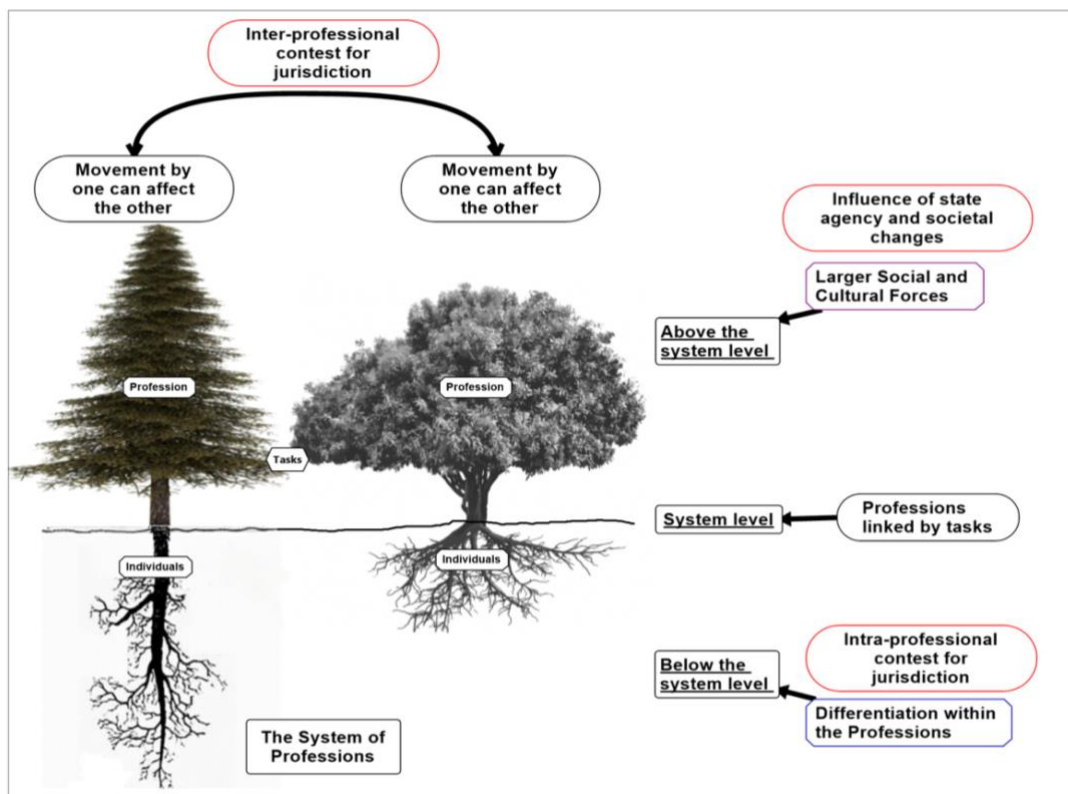
Figure 8 – The system of professions (based on Abbott, 1988)

In this figure the trees represent the different professions all connected by their tasks. In nature this might represent the provision of material for shelter and tools, it provides food as well as giving life to wildlife. Trees stabilise soil and they provide oxygen and store carbon (The Royal Parks, 2022). A fascinating microscopic network of fungi exist underneath the forest floor, intertwined with the roots of the trees creating a vast network of mycelium. These threads of mycelium compose what is called a 'mycorrhizal network', connecting various plants, and transferring water, carbon,

nitrogen, and other minerals. In healthy forests this network enables trees to share water and nutrients and it is especially beneficial for young saplings growing in shady areas as sunlight is not able to reach the leaves for photosynthesis (National Forest Foundation, 2022).

The relationship between professions both above and below ground can be likened to the relationships between trees in a forest. It is a simplistic definition but one that provides some explanation for the use of the analogy. Trees exist in an ecosystem and sometimes this means that the presence of one tree can influence the existence of the one next to it **(system level)** (Abbott, 1988). Trees are also affected by changes in the environment and the soil it grows in **(larger social forces)**. The two trees in the picture have different root systems – taproot and fibrous – and they represent the individuals in the profession **(differentiation within the professions)** (Abbott, 1988). In my view, professions with taproot systems include Medicine, Law, and the Clergy as they have a strong history and structure which is recognised by society, providing stability to these professions in the ecosystem. Professions with fibrous root systems represent professions hoping to achieve profession status but may be more susceptible to the larger social forces and the differentiation within the profession.

Abbott (1988) suggested four elements that act together to influence the development, maintenance and fate of the professions and they are work, jurisdiction, competition, and abstract knowledge. Work refers to the profession's ability to classify the problem (diagnose), to think about the problem (inference) and to act on thoughts about the problem (treatment). Together the three acts form the cultural logic of professional practice, and it is within this logic that the tasks of the profession become the subjective qualities that determine the cognitive structure of the jurisdictional claim. In essence work is the diagnosis, inference, and treatment of a problem within a body of knowledge. Jurisdiction (or control over work) is the link between the profession and the tasks that become the work of the profession (Abbott, 1988).

A profession can only claim jurisdiction in three areas, and they are in the workplace and through legislation and public opinion (Abbott, 1988). These three areas help to create stability for the profession by setting boundaries, however, this stability is temporary within the system of professions. It can be disrupted or influenced by larger social forces and or individual differentiation within the profession as well as other

professions that share elements of clinical practice (Abbott, 1988). Competition reflects the influence of the neighbouring professions within the system of professions as a change in one affects the balance of the whole system. Competition can be from external and or internal forces and it will impact the profession's ability to control their work. Controlling the work involves identifying and maintaining the abstract knowledge related to the profession. Abstract knowledge can be defined as the information, principles, and concepts necessary for the professional to perform the work (Abbott, 1988).

Abbott (1988) acknowledged that by viewing the professions within a system he ignored the details related to *when* a profession is called a profession, but rather considered the interactions within the system to explain why new groups arise or indeed fail. Macdonald (1995) provided an analysis of professions literature and critiqued Abbott's (1988) decision to view the professions within a system for the following reasons. Firstly, despite saying that he (Abbott) felt it inappropriate to consider the structure and order of professions, he implied that they exist within a system. Secondly, with the view that all professions exist in a system he (Abbott) neglects the fact that professions also interact and collaborate with non-professionals such as clients and the state. Lastly, Macdonald (1995) felt that Abbott's approach is cut off from the meanings and motives of the actors or members of the profession. Adams (2010) saw Abbott's (1988) attempts to shift focus from the process of becoming a profession to the work they do as valuable to the professions' literature, but it did not differentiate between professions with expert status and those without.

At this point it is useful to consider Bourdieu's (1985) theory of symbolic capital and the importance of professional titles in relation to the differences within the professions below the system level. It brings some insight to the intra-professional contests for jurisdiction in relation to the use of title between the members of the profession. Symbolic capital is a form of social capital that is based on the recognition and respect and in the context of professions, symbolic capital is based on the recognition and respect that is conferred to the profession's knowledge, skills, and expertise (Bourdieu, 1985).

Despite the critique of Macdonald (1995) and Adams (2010) the changes affecting the delivery of services in the audiology profession and the impact on educational

pathways create an image of a profession at the mercy of factors both above and below the systems level. A strength of Abbott's theory, according to Cox and Corrall (2013), is that it provides a powerful framework to reflect on change in the professional space.

At the systems level we consider the work or tasks of the profession and Abbott (1988, p. 35) viewed these tasks as "human problems amenable to expert service" with the problems having both objective and subjective properties. Objective properties refer to the technological or natural priorities of the problem and subjective properties are imposed by the past, present, and future culture in which the problem exists (Abbott, 1988). The task's objective properties complicate the ability of neighbouring professions to move into the jurisdiction of the profession that has control of the task at that moment (Abbott, 1988).

The current construction of the problem of hearing, balance, and related disorders is typically within the jurisdiction of the audiology profession but there is some overlap with other professions. An example of this is physiotherapy and occupational therapy in managing the impact of balance disorders as each profession considers the condition and its impact as part of a multidisciplinary team that includes the audiology professional.

The objective properties are hearing, balance, and related disorders and the subjective properties the management of the individual's hearing, balance, and related disorders as well as their impact on the individual's quality of life. Figure 9 presents a visual presentation of the objective and subjective properties of tasks as it applies within the scope of practice of audiology.

It is true that the impact of the culture on the subjective properties (past, present, and future) may not be the gentle upward or downward slope as presented in Figure 9. The dotted line in the diagram reflects the unknown of what the future might bring with the hope that the increase in technological advances will continue, and the attempts of other professions to claim the tasks will decrease as suggested.
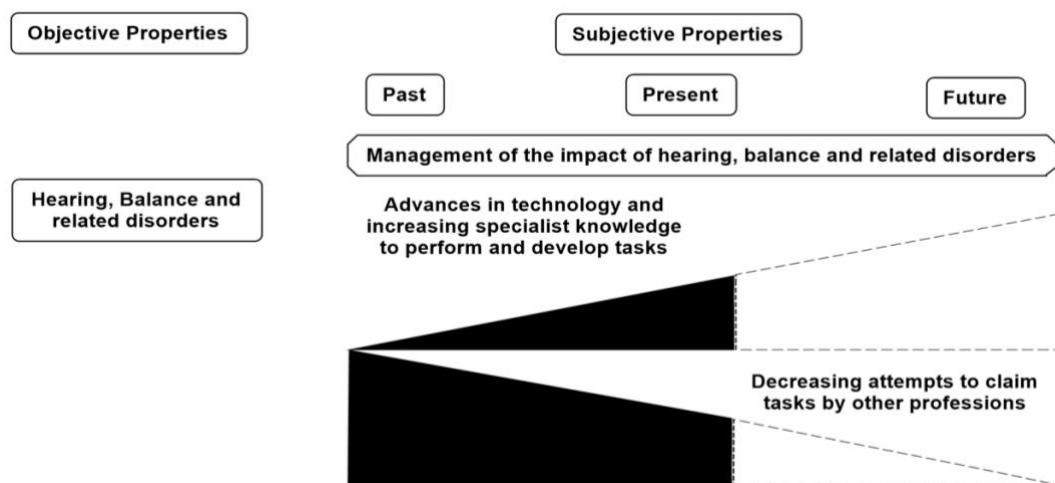
Figure 9 – Objective and Subjective Properties of Hearing, Balance, and related disorders

The past, present, and future contexts in which the tasks of audiology are performed should be seen alongside the increase of technological advances and specialist development in the management of hearing, balance, and related disorders. The increase in technological advances brought with it a professional requirement to increase knowledge, resulting in specialisation. In 2007, Edwards considered the current and future trends in the treatment approaches of hearing loss and described a move from managing individuals as a uniform group to individual therapy. This reflects the advances of digital technology in comparison to analogue in the design of hearing aids. Since 2007, the focus of hearing care has been seen to shift from the collective to that of person-centred care as well as an increased need for evidence-based practice (Wong and Hickson, 2012). The start of the pandemic in 2020 created an opportunity to further advance access to hearing care through the provision of tele-audiology (Ballachanda *et al.*, 2020). The specialisation and increase of knowledge complicate the ability of neighbouring professions to attempt a claim of jurisdiction on Audiology tasks.

The development of technology also brings with it threats to the profession and this can be seen by the introduction of hearables and over the counter (OTC) hearing aids for individuals with mild to moderate hearing loss. These hearing aids disrupt the normal delivery of hearing care that involves assessment of hearing and amplification by an audiology professional as consumers will be able to make their own adjustments as needed. Edwards (2020) surveyed consumer's attitudes towards OTC hearing aids

and found that almost half of hearing aid and non-hearing aid users are uncomfortable with the idea of making hearing related adjustments without an audiology professional. At present this supports the notion that there is still a place for the audiology professional in the management of hearing, balance, and related disorders but it also has the potential to disrupt the role.

At this point the focus will shift from the broader system to the individual aspects of a profession and the social and cultural environments in which it functions. No profession is internally homogenous (Abbott, 1988).

3.6 The System's environment

At the system's level the theory sees the work or tasks of the professions as the links between individual professions with larger forces acting on the system above the level and internal characteristics of the profession affecting the system below. Figure 10 expands on figure 8 by exploring the ***internal differentiation and the problem of power*** within the profession and the ***social and cultural environments of professional development*** acting on the environment in which the professions perform their tasks. Drennan *et al., (*2017*)* referred to three jurisdictional contests that shape professions according to Abbott (1988). They are inter-professional, intra-professional and the influence of state agency and societal change.

The next section will consider Abbott's (1988) system of professions and whether it might provide a framework to explore the changes in service delivery and education in the UK audiology profession between 1997 and 2022. The intention is to place the challenges and opportunities that have been faced by the audiology profession over the past 25 years with the system of professions literature. It should be noted that the exclusion of events before 1997 is due to limited access to printed documented evidence.

3.6.1 Internal differentiation and the problem of power

This section considers the individuals within the profession, how (***internal stratification***) and where (***workplace division***) they work as well as their diverse careers (***career patterns***) and the populations they serve (***client differentiation***) (Abbott, 1988). Figure 11 provides a visual representation of aspects identified by

Abbott (1988) in relation to events in audiology linked to internal differentiation and the problem of power.
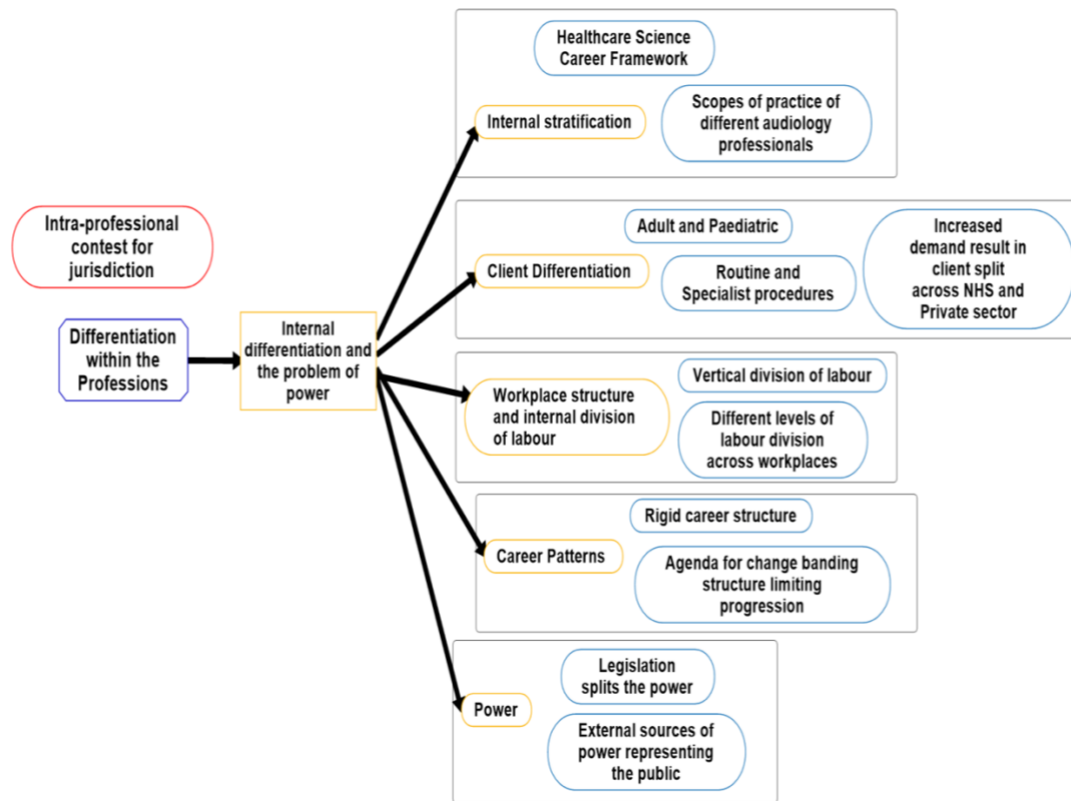
Figure 10 – Internal differentiation and the problem of power

a) *Internal stratification*

Internal status rankings result in what Abbott (1988) called professional regression, where professions remove themselves from the task for which they claim jurisdiction. Professionals are organised according to the system used to organise knowledge within the profession as status reflects the level of involvement. The more the professional's work involves knowledge the higher the status. The natural hierarchy in the profession according to Abbott (1988) has the academic at the top, focusing on the pure knowledge of the tasks and the frontline worker who interacts with the public (or patients in healthcare) are at the bottom of this hierarchy, as their work is affected by the interaction with the public. Professions tend to structure the professional career so that it begins at the bottom of the 'natural order' rather than removing the internal stratification, resulting in professional regression.

The internal stratification can result in superordinate and subordinates within the profession. In audiology the introduction of the Modernising Scientific Careers (MSC) programme (DOH, 2011) and the healthcare science career framework that differentiates between education and job description results in 9 levels of employees. The level is then paired with the respective Agenda for Change (DOH, 2000) banding creating a hierarchical structure in the NHS existing of both superordinate and subordinate professionals. A hierarchy that is further complicated by the spread of different professionals in audiology, some with similar scopes of practice.

The overlap in scope of practice and assortment of professional titles in audiology is visible in different countries (Goulios and Patuzzi, 2008). The combination of the roles, specifically hearing instrument practitioner/hearing aid dispenser and audiologist, can also be found in Ireland, Australia, New Zealand, and the United States and is evident from a summary of the similarities and differences in the scope of practice between two roles identified in Canada (adapted from SAC (2013) in Steenkamp and Hougaard, 2015) (table 19).

Table 19 – Summary of the similarities and differences in scope of practice between two roles identified in Canada (Adapted from SAC, 2013)

Similarities	Differences	
	Hearing Instrument Practitioner	**Audiologist**
Audiologists and Hearing Instrument Practitioners conduct hearing tests for the purposes of dispensing hearing aids and other assistive listening devices.	Hearing Instrument Practitioners test peripheral hearing for the purpose of selecting, fitting and dispensing hearing aids and other assistive listening devices.	Audiologists are uniquely qualified to assess, identify, diagnose *(restricted in some provinces)* and manage individuals with peripheral or central hearing loss, hyperacusis, tinnitus and balance disorders; and to select, prescribe, fit and dispense hearing aids and other assistive listening devices. Audiologists also receive extensive training in counselling and (re)habilitation, which extends their practice
	Hearing Instrument Practitioners are typically not permitted to provide services to children *(age-range defined differently in various provinces/territories)* as their scope is generally limited to adults and is reflected as such in regulation, where it exists.	

		beyond the selection and fitting of amplification. Audiologists are trained to perform these services for all ages – from newborns to adults.
The Hearing Instrument Practitioner's scope of practice is narrower than the Audiologist's.		

b) Client differentiation

Client differentiation can exist within 2 professions that share a jurisdiction and indeed within the same profession. The differentiation is true for the audiology profession in the UK in the following ways: ability to self-fund, adults versus children and complexity of condition. Clients can be differentiated by their ability to pay for services and technology in the private sector and those that access the NHS for free (at the point of access) services and technology. Interestingly the task differentiation within the profession tends to move in the opposite direction with more specialised procedures available in the NHS and not the public sector. Children are typically seen in the NHS and not the private sector.

Client differentiation is linked to the demand for professional service as it increases when capacity is reached and decreases when demand decreases. The impact is evident with the introduction of digital hearing aids in 2000 (RNID,2001) as demand increased in the NHS (Mayor, 2007), resulting in the introduction of Private Practice Partnerships (PPP) (UK House of Commons Health committee (2007)) followed by Any Qualified Provider (AQP) scheme (Department of Health, 2011). Digital hearing aids have been available in the private sector before 1999 (RNID, 1999). Patients in the NHS were then able to attend clinics in the private sector through NHS patient pathway funding.

c) Workplace, workplace structure and internal division of labour

Professionals can work across a range of workplaces and can be themselves divided into autonomous and heteronomous. Autonomous refers to those professionals who work for professional peers or themselves and heteronomous refers to those professionals who work for organisations and are not headed by professional peers (Abbott, 1988). In the United Kingdom autonomous refers to the private sector and heteronomous refers to the NHS. The internal division of labour in professional work

is an important variable in the social division of the profession and is most evident in the differentiational between routine and non-routine work (Abbott, 1988).

In audiology in the UK there is a general divide between routine and non-routine when considering the private sector and the NHS but within the NHS this divide exists as well. In the NHS the divide is based on the hierarchy with routine patient care provided at the lower Agenda for Change banding levels (particularly bands 4 and 5). Abbott (1988) referred to this division of labour as degradation of what had been professional work to non-professional work and sometimes this can also result in the degradation of those that do the work. This degradation can have implications for interprofessional competition resulting in a division in the profession into superordinate (truly professional) and a lower subordinate, leaving the subordinate vulnerable to jurisdictional claims and strengthens the jurisdictional claim of the superordinate (Abbott, 1988).

Vertical division of labour is evident in audiology within both the private sector and the NHS, but it has an interesting implication for the hearing aid dispenser. In the NHS it exists between the clinical scientists with statutory regulation and audiologists and hearing therapists with accredited voluntary regulation. Hearing aid dispensers on the other hand are divided by workplace. In the private sector they are the superordinate with statutory regulation but in the NHS, they are a subordinate to the other audiology professionals. The complication is that they are also statutorily regulated and in the NHS their superordinate may be the audiologist with accredited voluntary regulation and no protected title. The entry level job description of the audiologist in the NHS is comparable to the job description of a hearing aid dispenser in the private sector due to the Agenda for Change banding hierarchy in the NHS.

The impact of this complicated internal division of labour across two sectors can be seen in the private sector hearing aid dispenser now staking a claim on the unprotected title of audiologist. An example of this claim is visible on one national hearing aid dispenser company website explaining the difference between an audiologist and a hearing aid dispenser: "You'll typically find that when you visit the high street you'll be seen by a HAD and if you visit the hospital you'll be seen by an audiologist. The main reason for this is because clinicians on the high street are

registered with the HCPC and will use their registered title. The role in itself is the same." (Specsavers, 2022).

A comparison between audiology (sic) and hearing aid dispenser in the UK by NHS Healthcareers (2022b) compounds the confusion as it does not distinguish between the different scopes of practice as evident in the definitions provided by SAC (2013) (table 20).

Table 20 – Comparison between hearing aid dispenser and audiology (sic) according to NHS Healthcareers (2022b)

Hearing Aid Dispenser	Audiology
Hearing aid dispensers (HAD) are fully qualified clinicians who assess hearing and provide aftercare for hearing aids.	Audiology is about identifying and assessing hearing and balance function and their associated disorders.
Missing information – Hearing Aid Dispensers can only see patients above the age of 16 (BSHAA, 2020).	*Missing specification – Audiologists can see adults and children.*

d) Career patterns

Career patterns exist for all professions in various configurations – some official and others unofficial. Careers with high interprofessional status often have long training periods and specific set frameworks according to Abbott (1988). A strict framework is not conducive to professionals moving easily within the different levels of the framework. Changes in this framework can have a profound impact on the availability of staff and Abbott (1988) referred to this as demographic rigidity. The introduction of the Modernising Scientific Careers (MSC) programme and the healthcare science career framework resulted in demographic rigidity. Movement between the different levels in the framework requires further study linked to funding that restricts access but completing further study does not guarantee movement to a higher level. MSC attempted to create a less rigid structure by allowing movement between different professions within one qualification, but this flexible curriculum was too difficult to implement. Some professions cannot be flexible, for example the delivery of healthcare (Abbott, 1988). The Agenda for Change banding system limits progression as movement between bands is linked to availability of posts at higher levels.

e) Power

Abbott (1988) defined professional power as the profession's ability to maintain a claim of jurisdiction even when forces within the system infer that they should have lost it. There are two aspects to consider for the concept of professional power: the first to win jurisdiction by inter-professional force and the second ensuring that jurisdictional claims never develop (Abbott, 1988). Audiology as a profession is a complex example as professional power struggles occur on an intra-professional level. An example of this was perhaps unintentional when legislation was introduced by the state for two of the audiology professionals, hearing aid dispensers in 1968 and clinical scientist in 1999. Sources of power can be outside the profession as well (Abbott, 1988) for example the RNID representing the public and criticising the NHS in 2001 when digital hearing aids were still not available everywhere.

The next section will move the focus to the influence of state agency and societal changes on the profession within the system.

3.6.2 The social environment of professional development

It is important to consider the impact of wider external forces on the system of professions and not just what affected one profession at a time as the impact is often mediated by the system. To understand the impact, one needs to examine the structures that make up the social environment. Figure 11 considers the social environment of professional development according to Abbott (1988) linked to events in audiology.
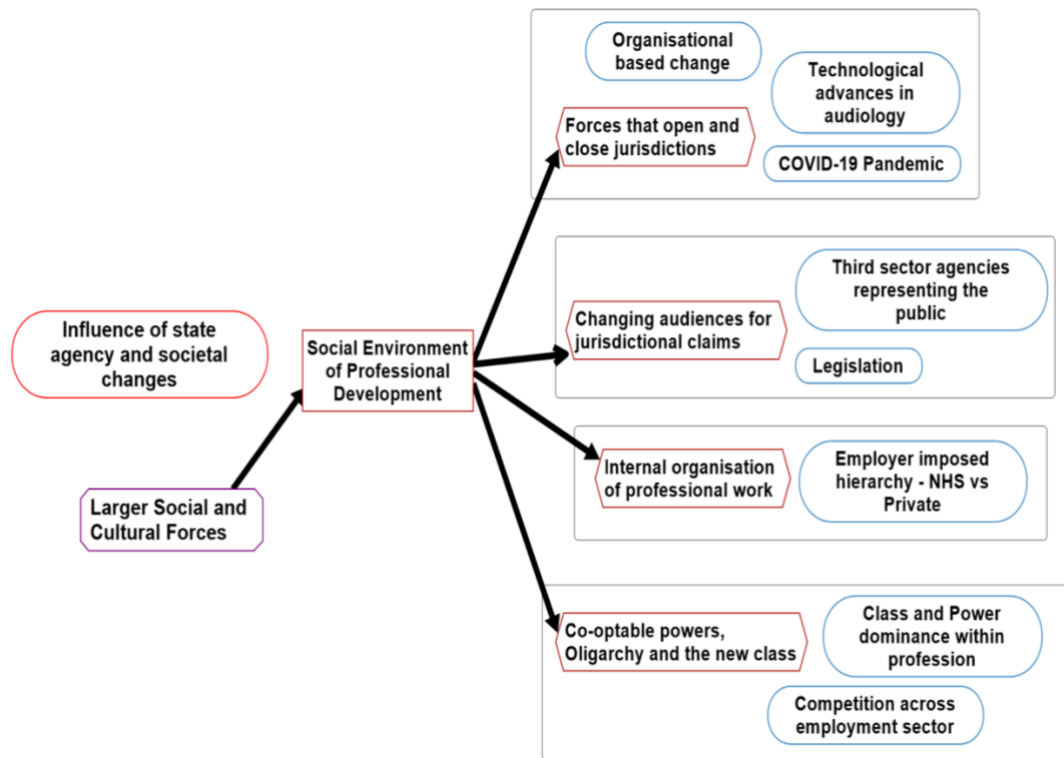
Figure 11 – Social environment of professional development

a) Forces opening and closing jurisdictions

Technological and social changes in the last two centuries have created several new professions due to the rise in technology and the rise of large-scale organisations. It also closed several jurisdictions (Abbott, 1988). For the profession of audiology, the rise in technology raised the profession's profile on two occasions: the first with the introduction of the MEDRESCO hearing aid in 1943 (Brooks, 1989) and the second with the introduction of digital hearing aids as part of the Modernising Hearing Aid Services (MHAS) programme introduced in 2000 (RNID, 2001).

The coronavirus COVID-19 pandemic in 2020/21 resulted in an increased use of tele-audiology to deliver hearing care at a distance, access that was available pre-pandemic but not utilised fully. Restricted access to healthcare sites ramped up plans to implement remote access infrastructure in healthcare settings and hearing care benefitted greatly with 86% of surveyed UK audiology respondents stating that they will continue to use tele-audiology (Saunders and Roughly, 2020). Another example of the impact of external forces brought on by the COVID-19 pandemic was the raised

the profile of respiratory therapy in Canada (Zaccagnini *et al,* 2021) as discussed in section 3.4.

The NHS is an example of a large-scale organisation that came to being in the last century. According to Abbott (1988), these large-scale organisations bring with them a high demand of administration and management as well as professional services to fulfil their functions. The UK National Health Service (NHS) is listed in several sources as among the top 10 organisations in the world based on staff numbers (BBC, 2012). Established in 1948 it provides employment to 1,370,991 NHS Hospital and Community Health Service (HCHS) staff (NHSDigital, 2019).

In general, technological, and organisational change can have a positive impact on the profession but the indirect effects bear further consideration. According to Abbott (1988), they are the commodification of knowledge, the dominance of organised capital and the creation of a problem called adjustment. The commodification of knowledge results in the work of the profession being viewed as a commodity and jurisdictional shifts can be created by buying or selling the commodity (Abbott, 1988). An example of this for audiology is the introduction of the Any Qualified Provider scheme where the organisation forces a change on service delivery. The introduction of Over the Counter (OTC) hearing aids provides an example of the influence of technology possibly replacing the role of the audiology professional and turning the technology into a commodity that can be bought or sold.

The dominance of organised capital refers to the production, consumption, and distribution of commodities with specific interests in certain professions and definite opposition to others. At the time of writing about the system of professions, Abbott (1988) believed that it might explain why banking and business administration never developed into distinct profession as their functions were too diverse and determined by the nature of the setting.

The problem of adjustment is an interesting one as it focuses on the professionals in society and considers the impact of social change on those individuals and helping them to adjust. An example of the problem of adjustment can be seen when considering the role of the professions of psychology and psychiatry in helping individuals process the impact of changes in society possibly brought on by the rise

of technology and or large-scale organisations (Abbott, 1988). As a profession, audiology experiences a continuous rate of change on a technological basis requiring continuous adjustment to help the professional cope. The UK system of regulating professionals in healthcare adds an additional layer to adjustment required to perform the work of the profession, as the professional moves between different titles and regulations statuses. For some professionals this adjustment can happen on a weekly basis if they are working in two different sectors.

The audiology profession is affected by both technological change and organisational based change and therefore faces a continual revision of the work of the profession.

b) Internal organisation of professional work

In the 20th century the organisational structure of professions became more bureaucratic due to the organisational revolution in the late 19th century (Abbott, 1988). A rise in highly structured work organisations with internal divisions of labours impacted the competition between professions often creating hierarchies that favoured one profession over the other (Abbott, 1988). An example of this is seen in medicine where doctors are still granted domination over subordinates, but somehow, they were not as affected by bureaucratisation as other professions despite having interns and residents placed below consultants (Abbott, 1988). Within the NHS, audiology consists of several layers of professionals divided by their qualifications (both historical and current) across nine levels providing a complex hierarchy. This hierarchy is not as complex in the private sector that typically contains assistants, trainees, and registered hearing aid dispensers (often combined with management roles). The discrepancy in the number of levels results in two different internal organisational structures within one profession.

c) Changing audience of jurisdictional claims

Abbott (1988) identified three changes over time to the audience of jurisdictional claims and they are firstly the split in the workplace and public domain (discussed in b) above), secondly the emergence of legislative authority and lastly the active role of the public as an audience.

Legislation in the UK is structured around protected titles and an *Act of Parliament* is required to grant protected status to a profession (Abbott, 1988). The Act protects the

use of the title and leaves disciplinary matters to private qualifying organisations and jurisdiction to interprofessional competition (Abbott, 1988). The result of this method of legislative authority is the fact that it is possible to claim the ability to cure illness so long as a protected title such as doctor is not used in the claim (Abbott, 1988). Legislation therefore allows the use of the title of audiologist by anyone delivering some form of hearing care so long as they do not use the titles of hearing aid dispenser and clinical scientist.

Abbott (1988) considered the public served by the professions a new audience for jurisdictional claims. For audiology this new audience is evident in the increasing presence of the third sector with charities such as the Royal National Institute for Deaf People (RNID) commenting on services provided in hearing care, most notably the two publications in 1999 (*Waiting to Hear? A report on waiting times for hearing tests)* and in 2001 (*Audiology in Crisis. Still waiting to hear).* Another example of changing audiences was identified by Zaccagnini *et al.* (2021) when the COVID-19 pandemic pushed the work of the respiratory therapist into the public arena due to their role in acute critical care services.

d) *Co-optable powers, oligarchy, and the new class*

Oligarchy in professions according to Abbott (1988) referred to the dominance of a profession within the system. When the jurisdiction of the dominant profession increases, they develop subordinate groups to perform the task under their direction (Abbott, 1988), and an example of this is the introduction of physician's assistants as a subordinate profession within the regulatory framework of medicine. The UK General Medical Council (GMC) will be introducing statutory regulation for Physician and Anaesthetist Assistants in 2024 (2022) through legislative changes.

Abbott (1988) identified the role of the emerging corporate society in increasing the availability of external authority that professions can co-opt to interprofessional competition. The work of audiology professionals is shared by four individual professionals across two sectors of service provision, with three layers of competition:

- within the NHS
- between the NHS and the private sector
- within the private sector

Within the NHS the main competition is between the individuals from different training pathways delivering specialist services. The NHS was created by and is also influenced by the state; therefore, the state is effectively dominating the process of professionalisation by being able to dictate professional status in the UK through the NHS (Timmons, 2010). Within the private sector the competition exists between the big national companies and the independent practices and is somewhat driven by the hearing aid and equipment manufacturers and 'who' they choose to support/sell to. This competition may become increasingly interesting as hearables and OTC self-fitting devices become more mainstream.

The dominance of professions linked to external co-optation can result in the creation of a class system through what Abbott (1988) referred to as the dilution effect. The dilution effect typically occurs when state power is used by the dominant to establish jurisdictional claim and class power to affirm that they are the 'true' professional (Abbott, 1988). The nature of the health system (NHS) in the United Kingdom, supplemented by the private sector, complicates considering the audiology profession in isolation or indeed its competition with other professions in the system. The four different audiology professionals can interact as if they are four different professions with state and class power potentially affecting the intra-professional relationship.

The next section will move the focus to the cultural environment of the profession, most notably the impact of changes in knowledge.

3.6.3 The cultural environment of professional development

Cultural changes that can have drastic effects on professions include the increasing complexity and amount of knowledge, new types of legitimacy claims based on the new knowledge and the rise of new universities (Abbott, 1988). Figure 12 considers the cultural environment of professional development according to Abbott (1988) linked to events in audiology.
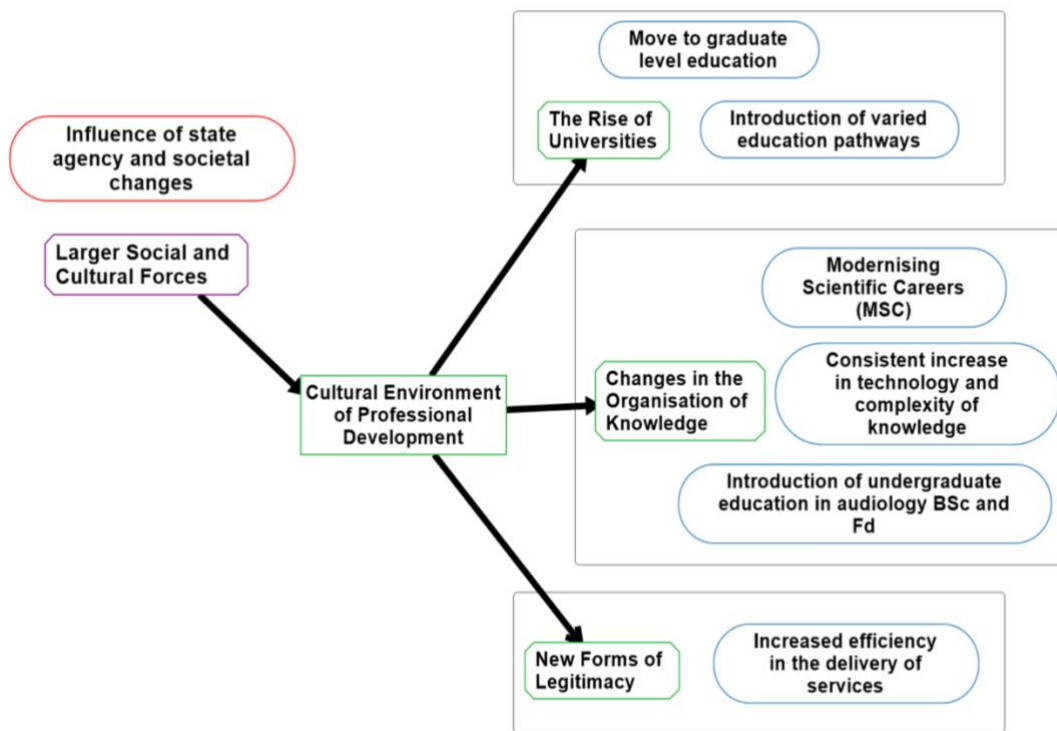
Figure 12 – Cultural Environment of Professional Development

a) Changes in the organisation of knowledge

Some professions, especially science-based ones, are more affected by increasing complexity and amount of knowledge than others. Abbott (1988) viewed this diversity as an external force that can impact the interprofessional competition. Professions typically manage the impact with two strategies that could have profound effects on jurisdiction, and they are the replacement of old and the addition of new knowledge (Abbott, 1988).

According to Abbott (1988), the addition of new knowledge is the typical approach considering the example of advances in technology, and professions deal with that by gradually increasing the expectation of what a professional should know. Addition of knowledge often leads to subdivision in the professional tasks to ensure that it can be incorporated in the remit of the profession (Abbott, 1988). In audiology, this subdivision is present in some form through the hierarchy in the workplace (both private and NHS in the UK) as well as through different scopes of practice for the four audiology professionals.

The replacement of knowledge over time results in organisational turnover and mergers and it can have more significant consequences on career patterns, especially if the turnover happens at a faster rate than the expected timespan of a typical career pathway (Abbott,1988). Professions cope with the replacement of knowledge in two main ways – continuing education and career turnover (Abbott, 1988). Continuing education as a strategy is applicable to the profession of audiology. The consistent increase in technological advances in hearing care requires ongoing education. Informal conversations with two different hearing aid manufacturers indicate a typical 18-month cycle for introducing new hearing aid ranges.

The introduction of digital hearing aids in 2000 through the MHAS programme and the BSc (Hons) Audiology degree in 2003 as well as the Modernising Scientific Careers (MSC) programme introduced in 2011 and the introduction of degree level qualification for hearing aid dispensers in 2012 resulted in the addition of new knowledge. Between 2000 and 2012 audiology professionals in the UK experienced four events with an impact on career development often requiring further education to keep up with these changes.

b) New forms of legitimacy

Legitimising the work of professions connects the tasks to the values of the larger culture (Abbott, 1988). However, these values can change and affect the professions indirectly through the overall system of professions. Abbott (1988) viewed the major change in legitimisation in professions as the move from a reliance on character values and social origins to a reliance on efficiency of service and rationalisation of techniques. Though history has shown that these changes have not impacted the jurisdiction of professions, it does bring with it competition between professions (Abbott, 1988). In the case of audiology, the competition appears to be within the profession as the private sector could claim an increase in efficiency because of direct access and no waiting time for hearing assessment and management when compared to the waiting times in the NHS (UK House of Commons Health committee, 2007; Mayor, 2007). The increase in efficiency by the private sector was highlighted in 2007 and resulted in the introduction of Private Practice Partnerships (PPP).

c) The rise of universities

There is a link between the rise of universities, the increase of knowledge and professionalism (Abbott, 1988). Universities contribute to professional life in four ways: by providing legitimation through expert education; facilitating development of new knowledge by supporting specialist research; by providing training to new professionals so they can join the profession and lastly, they provide an environment for interprofessional competition (Abbott, 1988). Historically, universities in the United Kingdom were based more on the development of culture, character and standing within society than the vocational training for professions (Abbott, 1988). Abbott (1988) thought that the university provided the culture, and the character of the individual and that will make them able to work in the profession. In the 19th and early 20th century this resulted in professional education being based in institutions under the control of the profession rather than in universities (Abbott, 1988). In the second half of the 20th century this expanded with some examples of combining university education with these professional courses (Abbott, 1988).

The varied educational pathways in audiology between 1950 and 2011 are examples of the rise of new universities. The profession has seen the progression from work-based training programmes and postgraduate level qualifications to a combination of in-service and more formal lectures and practical sessions, combined with professional body exams. Currently all audiology educational pathways include university education ranging from foundation degree level to PhD.

Audiology in the United Kingdom is a mini 'system' consisting of four different audiology professionals within the larger system of professions. From the discussion above it is evident that the environment in which the audiology system performs its tasks is affected by jurisdictional contests at inter-professional level as well as influenced by state agency and societal change. Abbott's (1988) system of professions provides a framework to consider the impact of the system's environment on the profession and its division of labour, but it does not consider the cyclical nature of change in the environment.

At this point events in audiology service delivery and education pathways will be discussed to determine the impact of change over time.

3.7 Cycles of change in audiology over time

Reviewing the history of the audiology profession in the United Kingdom a pattern of change emerges where events are introduced, often outside of the control of the profession, but with similar results to previous events. The response to the events is often reactive and it appears that as soon as one change is made another is already being planned. This section is based on the author's observations since joining the UK audiology profession in 2005 and reflections on the available literature.

3.7.1 Changes in audiology service delivery

Figure 13 considers the events that impacted delivery of audiology services. Events one and two involved the introduction of hearing aid technology and both events resulted in an unexpected increase in demand with patients turning to the private sector for faster access. It is interesting to note that the House of Commons Health Committee (2007) said that it was surprised that the increase in demand had not been anticipated (Mayor, 2007). This surprise might be because the last recorded impact of the introduction of hearing aids in the NHS was 57 years before MHAS.

Audiology Events: Service delivery

	YEAR	EVENT	IMPACT	RESPONSE
1	1943	MEDRESCO hearing aid introduced in the NHS at no cost to public.	Demand for service increases in the NHS with 3 to 4 year waiting lists.	Patients look to the private sector for faster service
2	1999 2000	1999 *Waiting to Hear* RNID publications raising concern about access to digital hearing aids in the NHS	Modernisation of Hearing Aid Services begins in 2000. Training and infrastructure provided	Demand for service increases in the NHS with increase in waiting lists
3	2006 2007	Audiology Services: Fifth report 2006-2007 House of Commons considers impact of modernisation of hearing aid services	Committee hears from stakeholders about the increase in waiting times due to increased demand	Private practice partnerships established with private with reduction in waiting lists but it introduces competition
4	2011	Department of Health England introduce *Operational guidance to the NHS on Extending Patient Choice of Provider*	Any Qualified Provider (AQP) Scheme introduced	Competition between the NHS and private sector to provide hearing care
5	2020 2021	Coronavirus COVID-19 pandemic	National lockdown restricts patients accessing hearing healthcare	Introduction of remote hearing healthcare and implementation of remote technology infrastructure

Figure 13 – Audiology events: Service delivery

Events three and four only applied to England but resulted in increased competition between the NHS and private sector introduced by PPP and AQP and moved the

jurisdictional contests into the public arena. Both events increased the tension between the different sectors. In essence this tension relates to improvement to services deemed necessary by the profession as opposed to general policy affecting more than one service. Event number five affected access to all healthcare services but for audiology it resulted in more widespread use of tele-audiology.

Audiology came under scrutiny in 1999 and since then audiology services in England have had three policy changes (MHAS, PPPs and AQP) and Scotland and Wales only one (Modernisation). Organisational change can be a positive part of service re-development and lead to improvement, but the profession would benefit from considering the impact of past experiences to pre-empt the impact of future changes.

3.7.2 Changes in audiology education

Between 1999 and 2022 the education of Audiologists at an undergraduate level changed twice and once on postgraduate level which is concerning for educators and the stability of the profession. It also has implications for migration, as the change introduced in 2009/2010 is not consistent with training routes in other developed countries. The change in education is yet another example of the tension between the profession and the Department of Health. Modernisation brought about changes to audiology education to support professional development and the proposed changes presented by the Department of Health are a general approach that applies to a group of professions.

Figure 14 provides a visual representation of the changes in audiology education. Event number two proposed a change to audiology education at a point where existing programmes (introduced by event number one) introduced over 3 cohorts of audiologists to the NHS. Event number three provided a graduate level route for hearing aid dispensers with possible articulation into the audiology programmes introduced by event number one. However, event number two changed the curriculum complicating the progression route from hearing aid dispenser to audiologist. Event number four broadened the delivery mechanism of event number two by offering a work-based option, but this affected the availability of placements for full time self-funded students. Event number five is a direct result of limitations introduced by the impact of changing the curriculum in 2009/2010 with a further pathway now added to facilitate progression.

Event number six has the potential to bring a further change to audiology education based on the recommendations from the PTP review and improvement survey (National School for Healthcare Science, 2020). In 2019, the National School for Healthcare Science (NSHCS) began a review of the Practitioner Training Programme (PTP) (HEE, 2022). This review consulted over 259 PTP stakeholders and the report findings were considered in the redesign of the principles of the curriculum to address some of the issues raised by stakeholders. Concerns raised included access to funding and more flexibility in placement as well as a review of the curriculum. The NSHCS hopes that the proposed changes will provide a flexible healthcare science workforce, increase recruitment and retention as well as enhancing the training experience (HEE, 2022). Table 21 lists the suggested recommendations from the PTP review with numbers four, five and six linked to changes in the existing curriculum. The consultation on the PTP principles based on the recommendations from the PTP review report concluded in October 2022. At the time of writing the outcome of the review was still pending.

1 — **2002**

Event: Move to graduate education across clinical physiology

Impact: Three audiology professional organisations (BAAT, BAAS and BSHT) work together to set curriculum and include professional body exams

Result: BSc (Hons) in Audiology introduced

2 — **2009 2010**

Event: Introduction of Modernising Scientific Careers (MSC)

Impact: Radical change to current education pathway and career framework. Increasing confusion about education pathways

Result: BSc (Hons) Healthcare Science (Audiology) PTP degrees replace BSc (Hons) Audiology but Masters programmes continue

3 — **2010**

Event: HAC dissolves and regulations transfers to HCPC

Impact: Introduction of graduate level education for hearing aid dispensers

Result: Hearing aid dispensers become regulated by HCPC. Two Audiology professionals are now statutory regulated.

4 — **2015**

Event: Introduce apprenticeship structure alongside the MSC curriculum

Impact: Not all Universities can offer apprenticeship framework

Result: Limited availability of apprenticeship courses in Audiology despite demand in NHS. Also a reduction in available placement sites for audiology students.

5 — **2018**

Event: Introduction of health care science curriculum limits progression for hearing aid dispensers.

Impact: Hearing aid dispensers struggle to progress to audiologist.

Result: Introduction of BSc (Hons) Audiology (Top up) degree

6 — **2019 2020**

Event: Reduction in healthcare science course offering across healthcare science professions due to drop in recruitment to existing programmes

Impact: Introduction of PTP review process to identify key issues

Result: Consultation on revised principles of the curriculum (concluded in October 2022 - awaiting results).

Figure 14 – Audiology events: Education

Table 21 – Recommendations from the PTP review and Improvement Survey (NSHCS, 2020)

1. Financial support for PTP students on work placement is critical. The following issue need to be addressed urgently.
2. Explore on what basis healthcare science students are not permitted access to the Learning Skills Fund or Bursary.
3. HEE need to target the PTP placement funding (Tariff) to individual departments hosting PTP student trainees to ensure that enough PTP placements are available and that departments willing and able to host PTP trainees are recompensed for the training.
4. Allow flexibility in naming and delivery of all PTP programmes including facilitating changes to the patterns of placements to better accommodate workplace providers and trainees.
5. The NSHCS should work with HEIs, and clinical partners to urgently review and update the curricula of all PTP programmes.
6. Introduce an education and training framework for undergraduate degrees including apprenticeship degree models to allow development of new undergraduate PTP-like programmes to ensure that the future healthcare science is secured and fit for purpose.
7. Consider the introduction of a system of quality assurance of PTP programmes to ensure consistency and standardisation in training resulting in improved patient safety.
8. HEE to work further with stakeholders e.g., professional body's, employers, and NHS Careers to promote recruitment, retention, and career development.
9. Facilitate better coordination between workplace and higher education content e.g., employer/HEI liaison groups.
10.Explore training opportunities for workplace trainers.

3.7.3 Changes in audiology regulation

Since 1968 the regulation of audiology professionals resulted in two of the professionals (hearing aid dispenser and clinical scientist) gaining statutory regulation. In 2001, lobbying began to gain statutory regulation for the remaining two professionals (audiologist and hearing therapist) but changes in overall regulation of professions in the United Kingdom introduced in 2012, complicated the ability to regulate 'new' professions through an Act of Parliament. The confusing regulatory landscape continues. Table 22 provides an update in line with the transfer of the RCCP to the AHCS and the impact for prospective registrants.

Table 22 – The different registration and qualification pathways in audiology in 2022 (derived from Brooks (1989), Ferguson and Bamford (2008), Casey (2017); Ngwerume (2019); BAA (2017) and RCCP (2021)

Occupation	Professional Association	Minimum Entry Qualifications	Professional Regulation
From 2009	**From 2009**	**From 2020**	**2022**
Clinical Scientist	British Academy of Audiology (BAA)	MSc (Audiology) plus Higher Training Scheme (HTS) / Scientist Training Programme (STP)	Statutory with the HCPC
Audiologist		MSc (Audiology) plus Certificate of Clinical Competency (CCC) / BSc (Hons) Audiology (Top up) / BSc (Hons) Healthcare Science (Audiology)	Voluntary with AHCS (incorporating RCCP)
Hearing Therapist		New pathways in development alongside Postgraduate training in Hearing Therapy	Voluntary with AHCS (incorporating RCCP)
Registered Hearing Aid Dispenser	British Society of Hearing Aid Audiologists (BSHAA) / Association of Independent Hearing Healthcare Professionals (AIHHP)	Foundation Degree in Hearing Aid Audiology / Diploma in HE in Hearing Aid Audiology / Aptitude test	Statutory with the HCPC

3.8 Summary of Chapter Three

Chapter three continued the chronological history of the UK audiology profession from 2009 while introducing the concept of professionalisation. The broader sociology of the professions provides a framework to investigate the changes over time to explore the impact on the profession. Abbott's (1988) system of professions provides a lens through which the work of the professions can be viewed in terms of its division of labour. Though Abbott wrote his textbook, *The System of Professions: An Essay on the Division of Expert Labor* in 1988 I believe it is still relevant to professions in 2022 as it provided me with a framework to explore the impact of changes in the profession. The examples he referred to in his discussion about the environment of the profession may no longer be relevant, but the core principle can still be applied to the profession of audiology in the United Kingdom.

The internal division of labour as well as the influence of the state on the profession creates a confusing and fragmented environment. There appears to be a cyclical nature to the events creating an image of a reactive profession with little control as seen in section 3.7. Looking at the profession provides the context of the division of labour but with limited consideration of the audiology professional's experience.

Chapter Four: Rationale for the Study

4.1 Introduction

Chapters one and two considered the continuous context of change as presented in the narrative account of the history of audiology in the UK. Chapter three considered the UK profession of audiology within the sociology of professions specifically situated within Abbott's (1988) system of professions. This next chapter will consider the rationale for this study.

4.2 Rationale for study

Audiology in the UK has faced several challenges and opportunities in service development and education which has resulted in a fractured profession with multiple identities. The difficulty for the profession lies in the fact that some of these changes do not appear to further improve and develop what is existing but rather present a different version of what is already in existence. This study will explore the impact of this changing context on the individual clinician and how they make sense of it.

At present there is paucity of literature on the experience of the audiology professional in the United Kingdom. A study by Ng et al (2012) in Canada reported that the professional identity in audiology is weak and in need of further research to prepare students better for a changing environment. Schön (1983, as cited in Dall'Alba, 2009) stressed the importance of completing research within the challenges and complexities of practice to add value to the evidence base.

Professionals face a context that is continuously changing (Dall'Alba, 2009). Change is not a new concept, but research agrees that it is happening at a more rapid pace which is challenging current interpretative frameworks (Dall'Alba, 2009). Barnett (2000) described a supercomplex world, one where the frameworks we use to orient ourselves to the world we live in are contested. It is a fragile world, fragile in the way that we understand the world, ourselves, and the ways in which we feel secure about interacting in that world (Barnett, 2000). The impact of changing contexts on the professions and professionals is now more evident than before when considering the impact of the COVID-19 pandemic on how professionals fulfilled their roles (Susskind and Susskind, 2022). In audiology, the pandemic resulted in the introduction of remote hearing care increasing access for patients as face-to-face interaction is no longer

required to adjust hearing aid settings. Tele-Audiology is possible because of continuous technological improvement in the profession with new hearing aid technology introduced every 18 months on average.

The purpose of professional education programmes in Higher Education Institutions is to orientate and prepare students to become professionals, although it may be argued that most of the professional learning happens after education in the workplace (Dall'Alba, 2009). This point is an important factor to consider in curriculum design because it implies that the curriculum is not functioning in isolation but should in fact consider the changing context. If this statement is true, then one must consider the impact of a changing context on the professionals themselves.

Professional identity is not a stable characteristic, and it is not acquired without engagement with knowledge and beliefs in the applied environment. This implies that identity is therefore both social and personal and involves internalisation and externalisation as the individual interacts with the world (Edwards, 2010). It is therefore individual and not necessarily time dependent. A changing environment may then pose several instances of interaction between the individual and their environment requiring a dynamic process to make sense of the impact (Dall'Alba, 2009). Professional identity typically develops within the context of the profession.

If this is true, then the development of professional identity requires flexibility which is supported by the notion of supercomplexity discussed above. This flexibility is supported by NG *et al.*'s (2012) study in Canada considering the education and socialisation of audiology students. It could be said that audiology in the United Kingdom is seeking to establish a body of knowledge, thus controlling the access to the profession but access is complicated by the different roles or titles within the profession. The range of titles poses a challenge to the professional education programmes within the UK context as they are charged with the initial development phase of these professionals.

Professions such as nursing (Abbott & Meerabeau, 2003) and pharmacy (Hammer *et al.*, 2003), considered the impact of graduate training programmes replacing the vocational based training system. Students' training focuses on becoming the professional and this should be based on a shared understanding of professionalism

and what it means within the profession. There is the view that professionalism starts with training so in essence it is the responsibility of educators as well as the clinical teaching staff to inspire students to become good professionals.

If this is the case, then there is a need to explore the individual's experience of becoming and being an audiology professional in the United Kingdom within the changing context and the confusing roles in UK audiology.

4.3 Research question

My journey through the history of the profession together with my personal experience in the profession, combined with exploring the broader sociology of the professions led to the research question: *What is the experience of audiology professionals in becoming and being an audiology professional in the United Kingdom?* The following strands narrowed the focus of the study and helped to identify the appropriate methodological approach:

1.   The experience of becoming an audiology professional
2.   The experience of being an audiology professional
3.   The impact of changes in education pathways and service delivery on the audiology professional

Chapter Five: Methodology and Methods

5.1   Introduction

Chapter five provides information about the methodological approach and methods selected to address the research question.

5.2   The selected research design and its appropriateness

A research design is the "plan or proposal to conduct research" (Creswell, 2014; p. 5) and its structure is determined by three interrelated components; philosophy, research designs and specific methods. The researcher must be clear about their own beliefs and assumptions about reality; what it is and how knowledge is created and what is valuable to learn (Davies and Fisher, 2018).

Figure 15 is based on Carter and Little (2007), Creswell (2014) and Coe *et al*. (2017) and presents the relationship between research approaches, designs and methods as moving from the broader aspects of research to the narrower processes involved in the collection, analysis, and interpretation of information. This figure was used to explore the selection of the appropriate research design and will be used as a framework to discuss the preference for a specific approach for the research question.
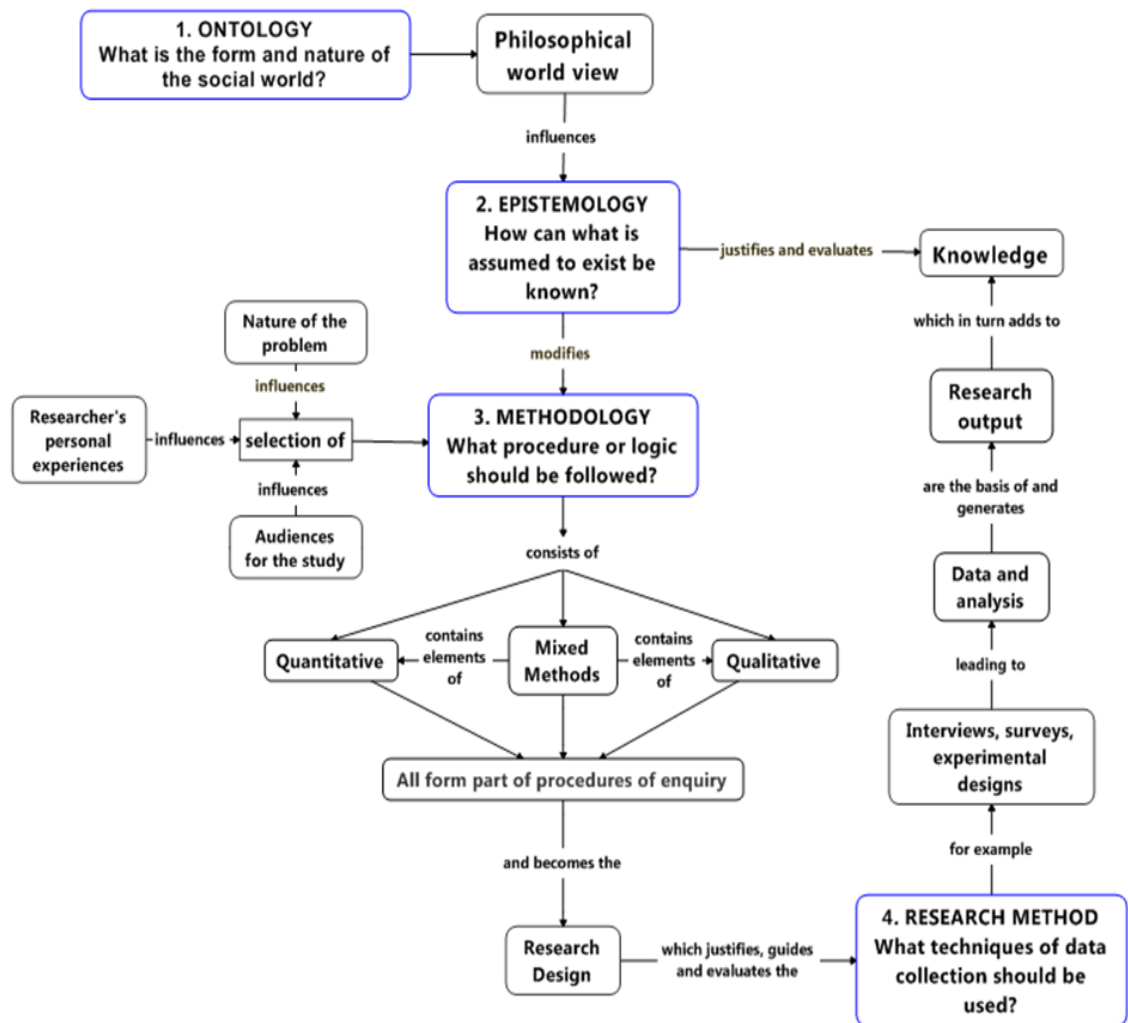
Figure 15 – Selecting a research design (derived from the work of Carter and Little (2007), Creswell (2014) and Coe *et al*. (2017))

5.2.1 Ontology, epistemology, and philosophical world view

The term worldview is preferred by Creswell (2014), but others have used terms such as paradigms; epistemologies and ontologies or research methodologies to represent a "... general philosophical orientation about the world and the nature of research that a researcher brings to a study." (p. 6). The philosophy or world view comprises the assumptions the researcher brings to the study. It is the "lens" through which the researcher "views" the question to select the research design and finally the methods or procedures that will inform and guide the enquiry (Creswell, 2014). Coe *et al.* (2017) preferred the term paradigm to describe the philosophical world view and posits that it exists along a continuum with realism and constructivism at either end.

Creswell (2014) stressed that the researcher should make their own worldview explicit to their audience, as this helps to explain and justify the choice of approach. It is suggested that the type of worldview held by the researcher will often result in a preference for a specific approach, therefore explaining why the researcher may feel a better fit with one approach over others. Creswell (2014) listed the following four worldviews as they are discussed most in literature: Post positivism, Constructivism, Transformative and Pragmatism. As a researcher I identify with a constructivist approach as I believe my experience contributes to the world I live in and shapes my understanding of it.

Coe *et al*. (2017) stated that research is framed by a series of related assumptions framed into four categories: epistemology, ontology, methodology and methods. A researcher should understand these assumptions and be able to identify them as they apply to the topic under study.

At this point I would like to refer to the origins of the research question (section 1.2) and my research perspective to clarify my worldview and the influence of my background – what I bring to this study and how it may influence the generation of knowledge. It is prudent to consider the parallel journey discussed in chapter one that began as a foreigner (dually qualified SLT and Audiologist) in a strange land (audiology profession in the UK) in the early stages of this study. I will discuss my assumptions by considering four questions (adapted from Machi and McEvoy, 2009):

1. ***What previous knowledge does the researcher have about the topic under investigation?***

I am a dual qualified Audiologist and Speech and Language Therapist and trained in South Africa. My work experience includes clinical practice in South Africa and in Scotland. I have been working in Higher Education as a lecturer in audiology since 2007.

2. ***What professional and personal experience does the researcher have that influences him/her about this issue or interest?***

I have experience working in two different contexts with similar and dissimilar aspects of role descriptions, as well as boundaries of practice and I am aware of the conflict in the United Kingdom in terms of the grouping of audiology with Healthcare Scientists

as opposed to Allied Health Professionals in other countries such as South Africa. Between 2010 and 2021 my involvement with professional and regulatory organisations included:

a) Professional committee memberships:
- British Academy of Audiology (BAA) Accreditation, Education and Training Committee; BAA Accreditation of Academic Education Committee; BAA Higher Training Scheme Committee.
- British Society of Audiology (BSA) Professional Practice Committee.

b) Participation in the accreditation of audiology courses across the United Kingdom on behalf of the National School for Healthcare Science and the Registration Council for Clinical Physiology (RCCP)
- Courses based on Modernising Scientific Careers (MSC) curriculum in the document entitled *The Future of the Healthcare Science Workforce, Modernising Scientific Careers: the next steps*, proposed by the Department of Health in 2008.
- Accreditation of postgraduate preregistration courses in audiology as well as hearing aid dispenser conversion Top Up degrees.

c) Between 2015 and 2021 I was a BAA Board Director with a remit focused on education, accreditation and registration matters in audiology.

d) Represented BAA on the RCCP Professional Bodies Education Committee as well as RCCP Council.

e) Appointed as the RCCP Education and Professional Standards Officer with oversight of joining pathways, CPD and accreditation.

f) Participated in the discussions around the transfer of the RCCP to the AHCS.

I understand undergraduate and postgraduate educational frameworks and pre-registration audiology curricula and have participated as external validation and review panel member of a range of audiology courses in the UK and Ireland.

3. *What predisposes the researcher to certain conclusions about the issue or concern of study?*

My professional and personal beliefs and/or biases of the identity of the audiology professional and their scope of practice. I do not believe that the MSC curriculum for training audiology professionals was appropriate as it moved the focus away from the content needed to be an audiology professional and inserted information that had

limited relevance to the day-to-day practice in audiology. There is also dissonance around the incorporation of audiology in Healthcare Science group as opposed to Allied Health professions. I identify as an independent allied health practitioner.

4. *How will the researcher identify and isolate personal bias, opinion, feelings, and intuition to preserve a neutral position as a researcher?*

Through reflective practice, supervision (by a mentor) and reflexivity aided by keeping a journal to log and support analysis of thoughts and experiences. This process will be maintained by compiling field notes during and after interviews. I will also attempt to explore as much as is possible about the topic in question through confirmation of the understanding of the participants' as they discuss their experiences.

Reflecting on questions one and two confirmed that I am situated in the context of the research question and a participant, so it is not possible to remove myself as the researcher from the process. Questions three and four started the process of selecting an appropriate methodology to approach this study as my personal experiences influence the nature of the problem as well as the audience.

5.2.1 What procedure or logic was followed in the methodological approach?

At the start of a study each approach must be viewed through the lens of the researcher, to determine its relevance to the question based on the relationship described in figure 15. There are three main research approaches to consider for any study: quantitative, qualitative, and mixed methods (Creswell, 2014). Each approach consists of a range of research designs or procedures of enquiry and they in turn have specific research methods detailing the collection, analysis, and interpretation of data.

A reciprocal relationship exists between study objectives, research questions and choice of methodology as "objectives, research questions, and design shape the choice of methodology and methodology shapes the objectives, research question, and design." (Carter and Little, 2007, p. 1323). Therefore, it is not simply a case of deciding the methodology based on the research question, as the research question can be explored through a variety of methods and result in a range of research outputs. This two-directional iterative approach provides the researchers with a process whereby they can apply their philosophical view to determine the shape of

the methodology based on the area of exploration (Carter and Little, 2007; Creswell, 2014).

As a clinician I struggled to make sense of who the audiology professional was in the United Kingdom. As a researcher, I wished to understand the context and recognised the need to collect individual experience data through conversations with professionals (Creswell, 2014), data that could be generated through different methods and then interpreted to explore the research question. This aspect of the research question fits with my worldview that the experience of phenomena is unique to the individual and it cannot be studied in isolation. Understanding the phenomenon requires engagement with participants to make sense of it and not objective observation, especially as I am experiencing the phenomenon at the same time. My philosophical world view fits with a qualitative approach as it allows generation of data through interviews to explore the experience of audiology professionals in the UK.

I initially identified both phenomenology and constructivist grounded theory as possible methodological approaches to consider the research topic and at the time proceeded with grounded theory to aid my understanding of the UK audiology professional's identity. I intended to generate a theory of the professional identity of the audiologist by exploring and describing the lived-in experience of becoming a professional in the United Kingdom. I realised as soon as the interviews began that the experience of the UK audiology professional was diverse and exploring the phenomenon of the lived experience of becoming and being an audiology professional became the focus to explore.

Phenomenology then became the methodological approach because it supports the study of a phenomenon of interest. It does this by providing an opportunity to consider the individual in the research topic through individual interviews as part of data generation. Qualitative methodologies such as action research, historical research methods, case study approaches and ethnography can also be used to explore the topic but may not necessarily provide the opportunity to answer the research question. This study is interested in the individual's experience of becoming and being an audiology professional and phenomenology offers me, as the researcher, the opportunity to "construct a meaningful reality through data analysis" (Peoples, 2021, p. 3) and it "rests on the assumption that there is a structure and essence to shared

experiences that can be narrated" (Marshall, Rossman and Blanco, 2022, p. 167). I intend to describe this phenomenon so that it becomes a named reality that can be shared.

Phenomenology can be divided into two main approaches: descriptive (or eidetic) (Husserl) and interpretive (Heidegger) or hermeneutic (Gadamer). The difference between the two approaches lies in how the conclusions are generated as well as how these conclusions are used to enhance professional knowledge (Lopez and Willis, 2004). A further distinction lies in the role and influence of the researcher. Descriptive phenomenology believes that it is essential for the researcher to bracket or discard all pre-existing knowledge to be able to grasp the lived-in experience of the participant (Lopez and Willis, 2004). Interpretive phenomenology on the other hand considers the pre-existing knowledge as expert knowledge that acts as a guide to the inquiry and adds meaning (Lopez and Willis, 2004; Brocki and Wearden, 2006; Smith and Osborn, 2008).

Hermeneutic Phenomenology typically involves in-depth interviews with participants who experienced the phenomenon with analysis focusing on the shared essence of the experience. Each interview should be individually analysed and then compared with others with a focus on lived life (Marshall, Rossman and Blanco, 2022). Lopez and Willis (2004) are of the opinion that the researcher's knowledge base is what leads them to identify the research area to be studied in the first place. As the researcher for this topic, I identify with the hermeneutic approach to phenomenology. My experience in the profession is what led me to the topic.

This research study evolved into a hermeneutical phenomenological enquiry within a qualitative methodological approach, using interviews. Limitation of such an inquiry is that it cannot be generalised to a larger group (Davies and Fisher, 2018). The interviews considered the experience of audiology professionals who qualified before the introduction of the BSc (Hons) Audiology degree and the Modernisation of Scientific Careers programme. It provided me as the researcher information about this period in the profession's history and its role in becoming and being an audiology professional. I recognised that it did not include current events, so I added a survey to explore aspects of the research question in the wider audiology profession to determine if there is consistency with the themes identified in the qualitative study.

The sequential combination of qualitative and quantitative data collection techniques fit within a mixed methodological approach.

Mixed methods research is reasonably new to the research methods approaches, especially in human and social sciences (Creswell, 2014), so a good opening for any researcher is defining what is meant by mixed methods. Johnson, Onwuegbuzie, and Turner (2007, p.123) defines mixed methods research as follows: "Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration."

The origins of mixed methods research are rooted in the nature of the research question. It started with a group of researchers who believed that both qualitative and quantitative approaches were needed to address their research question (Johnson, Onwuegbuzie, and Turner, 2007). Several typologies of mixed method research exist but the increasing complexity of research projects, especially in large, dynamic healthcare studies requires a broader conceptual classification. The aim of the broader classification is to facilitate planning of mixed methods studies, especially for novice researchers (Curry and Nunez-Smith, 2015). Creswell (2014) identified three basic methods designs, as well as more advanced strategies. Figure 16 provides a concept map outlining these designs based on Creswell (2014).

A review by Leech and Onwuegbuzie (2009) found a range of designs in existence, challenging the researcher to wade through these designs to select the right typology for the topic. Leech and Onwuegbuzie (2009) proposes a three-dimensional typology of mixed methods based on the following conceptualisations:

- Mixed methods research exists on a continuum from monomethod design to fully mixed method design with partially mixed in between.
- The designs occur across three dimensions:
  - Level of mixing – from partial to fully
  - Time orientation – concurrent as opposed to sequential
  - Emphasis of approach – equal as opposed to dominant

At this point it is necessary to reflect on the role of paradigm or world view in a mixed method methodological approach. Johnson and Onwuegbuzie (2004) advocated the use of pragmatism as philosophical partner to support the combination of qualitative and quantitative research insights to reach a workable solution to answer the research question. Both authors believe that although there appears to be a link between certain research procedures and research paradigms, this link is not fixed, and researchers should be able to combine quantitative and qualitative methods freely. Pragmatism does not see reality as independent of the mind or within the mind but rather a combination (Creswell, 2014).

Morgan (2014) criticised the use of pragmatism in mixed methods research stating that the appeal of pragmatism in this case was more about its practicality than philosophical basis, focusing instead on the procedural issues in combining the strengths of quantitative and qualitative research. In the mixed method research community, there is a focus on *how* to do the research rather than *why* the research is conducted in a certain way (Morgan, 2014) – a *'whatever works'* approach to solving the problem. This flexible approach to data collection can lead to confusion (Davies and Fisher, 2018). Denzin (2012) stated that the true focus of pragmatism is the theory of truth that rests on the consequences or meaning of an action or event that cannot be given before the event occurs. Morgan (2014) confirmed this statement by reflecting on the value of the analysis of problem-solving as a human activity but questions the focus of problem solving as the motivation of the *'whatever works'* approach favoured by mixed methods researchers. Further research into the use of paradigms in mixed methods research identified four stances to overcome problems with combining paradigms namely a-paradigmatic, dual-paradigm (or dialectical), pragmatist, and single-paradigm approaches (McChesney and Aldridge, 2019).

The decision to include a quantitative data collection technique required consideration of how that fits with the constructivist worldview declared at the beginning of the study. Consideration was given to the characteristics (Davies and Fisher, 2018) of both world views (constructivism and pragmatism) as well as the philosophical questions about the use of pragmatism in mixed methods research and lastly, the research question. The aim of this research project was to explore the experience of audiology professionals in the United Kingdom and both stages of data collection contributed to this exploration to gain understanding thus fitting within the constructivist worldview.

McChesney and Aldridge (2019) reported on a study (McChesney, 2017) that used questionnaires and interviews within a single-paradigm approach to explore public school teachers' experiences of professional development within a major education reform in Abu Dhabi, United Arab Emirates. There are similarities between the McChesney (2017) study and this one as both seek to explore the lived experience of a population to understand it by using a combination of qualitative and quantitative data collection methods within a single-paradigm (constructivist) approach.
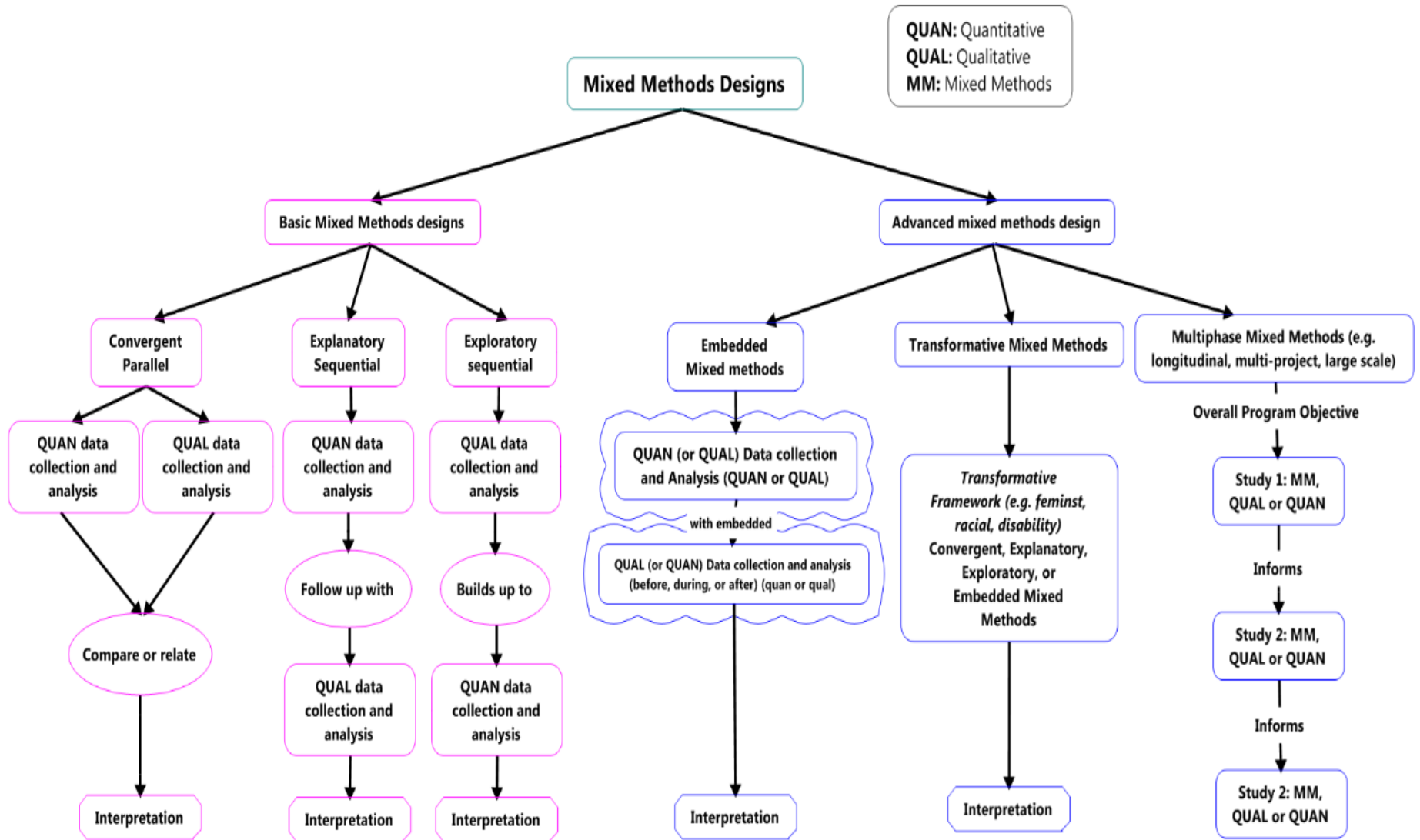
Figure 16 – Basic and Advanced Mixed Methods adapted from Creswell (2014)

5.2.2   What techniques of data collection was used?

This study began as a qualitative methodological approach and then became an **Exploratory Sequential Mixed Methods** design, where a qualitative data generation and analysis approach is used initially to support the design of a quantitative data collection and data analysis approach (Creswell, 2014). Within the Leech and Onwuegbuzie (2009) three-dimensional structure it will be partially mixed, sequential, with a dominant qualitative section.

5.3   Ethical considerations

5.3.1   Ethical approval

The ethical approval for this study was completed in two stages due to the evolving nature of the methodological approach. The research question explored the personal experience of audiology professionals in the United Kingdom and most professionals are employed in the National Health service (NHS). This personal experience did not require access to the place of work or patients but focused on the professional themselves and therefore it could be gathered outside of the work environment, but it did require confirmation with NHS research ethics.

Stage One – Interviews The participants for this study may have been employed by the NHS and as such the first step was to confirm whether NHS ethical approval would be required. I contacted the Scientific Officer of the South East Scotland Research Ethics Service (see attached email appendix 3) and at the time it was agreed that although the participants of this study may have been working in the NHS it is not necessary to go through the NHS ethical procedures as it only involves staff members and interviews will not be offered in the workplace, thus not requiring Research and Development (R&D) approval. QMU ethical approval for the qualitative interviews was granted in May 2013 by the Queen Margaret University (QMU) Research Ethics committee (appendix 4). Interviews that focus on personal experiences can at times evoke emotional reactions for the participant and/or researcher. Though I did not envision this to happen I did have information about accessing support for participants if necessary. As the researcher I could access this support as well, if necessary.

Stage Two – Survey

The analysis of the qualitative interviews presented a complex and varied experience and I decided that it would be useful to collect data from the wider profession through an online survey. The inclusion of a survey constituted a methodological change from purely qualitative to mixed methods and further ethical approval was sought from the Queen Margaret University Research Ethics committee and subsequently granted in October 2018 (appendix 5). Participants were recruited via the four main audiology professional organisations that exist in the United Kingdom, and they are:

1. British Academy of Audiology (BAA)
2. British Society of Audiology (BSA)
3. British Society for Hearing Aid Audiologists (BSHAA)
4. Association for Independent Hearing Healthcare Practitioners (AIHHP)

I contacted each organisation to enquire about the process for circulation and provided evidence of ethical approval.

5.3.2 Informed consent

The informed consent process for this study was determined by each stage of data collection and information sheets and consent forms were designed as determined by the stage.

Stage One – Interviews

Written informed consent to participate in the interview stages of this study was obtained as well as consent to use the data gathered.

Step One:

Each participant was provided with an information sheet (see appendix 7) containing information about the purpose of the study as well as the subject under investigation. They were asked to sign the consent form (see appendix 8) if they were willing to volunteer. Participants were offered an opportunity to contact the researcher or an independent advisor, to seek further information about the study. Participants were required to consent to the recording of their interview with a digital voice recorder as well as consent to the use of the data collected. Each participant was asked to complete a participant demographic information sheet (appendix 10) to help collect

demographic information before the interview. The sheet was not always completed but the interview topic schedule did allow for the collection of this data during the interview.

Step Two:

Informed consent can be difficult to obtain at the start of a qualitative research study (Punch, 2006) as it is difficult to know the impact of gathering the data before the interview. Due to the nature of this study, participants were asked to consent to the interview and were provided with a copy of the transcript of their interview to read through and confirm if it was an actual representation. Participants signed a statement (see appendix 9) to return with the transcript to confirm that they gave consent for the data to be used. Participants were also informed that they can withdraw from the study at any stage without needing to give a reason. It was not necessary to provide information about accessing support to any of the participants, but some participants did highlight comments that they wished not to include in the transcript for data analysis and they were subsequently removed.

Stage Two – Survey

The survey was circulated to professional organisations listed in section 5.3.1. who added the link to their newsletters and social media platforms, and it was open to all audiology professionals working in the United Kingdom. Information about the study was provided on the first page of the survey and respondents would self-select to complete the survey thus providing informed consent.

5.3.3 Anonymity and confidentiality

Ensuring anonymity and confidentiality is important for both phases of data collection and consisted of the following steps as detailed below.

Stage One – Interviews

The names of participants were known only to the researcher and a code was allocated to each participant. The original list detailing the names and codes of participants was kept on a password protected online database to which only the researcher had access. The audio-visual recordings were stored as unique web links on the Adobe connect database at QMU. At the end of the interview, the audio files were converted to a suitable format for transcription, anonymised and removed from

the database. Access to the meeting room was limited to the researcher and participant during the interview. The converted audio files and participant information sheets were identified by the code allocated to each participant to ensure anonymity and confidentiality and stored on a password protected online database. The anonymised transcripts were analysed and manually coded. The coded transcript was then added to NVIVO12 qualitative analysis software to facilitate the organisation of codes to identify categories and themes.

Stage Two – Survey

The survey was designed after the analysis of the interviews in stage (see section 6.5) and was circulated via the professional bodies in audiology and anonymously completed. The survey platform allocated random codes to participants to ensure that answers can be related back to a specific participant but will remain anonymous. At no point were the participants asked to provide identifiable information.

5.4   Sampling

The research question determines the criteria for selecting a sample to collect data and within a mixed methodology approach sampling requires strategies suited to the type of data collection in each stage. Sampling will be discussed for each stage of the study within a sampling frame.

5.4.1   Sampling frame

Mason (2018) sees sampling as part of the ontological and epistemological processes involved in designing the study and suggests that it be viewed as a universe rather than a specific population. This broader viewpoint allows for more creative and critical thinking about the range of decisions and activities involved in selecting the sample. Logically data collected should be representative of the wider population therefore representation of the different groups would be helpful but for that to be accurate the overall size of the universe must be known. Broadly speaking the universe for this study is the profession of audiology in the United Kingdom and within that universe there exists a range of different groups spread across the public and private sector. It is not possible to determine the number of audiology professionals through type of employment as employment ranges from the National Health Service to national high street hearing aid dispensing companies and independent practitioners. Some professionals may work across both sectors.

The next step to consider is regulation but both statutory and accredited voluntary registers exist so numbers will be accurate if protected titles are used but not voluntary titles and, in some cases, there may be overlap as one professional could potentially be registered across four different registers (the AHCS and RCCP were two separate registers at the time of data collection). Registrants on the RCCP can also be registered for more than one title. i.e., audiologist and hearing therapist or just hearing therapist. Table 23 provides an overview of the number of current registered audiology professionals as available online (as noted in December 2021).

Table 23 – Overview of current number of registered audiology professionals as available online

Register	Title	Number of registrants
HCPC	Hearing Aid Dispenser	3551
	Clinical Scientist*	6634
RCCP	Audiologist	2536
AHCS	Audiologist	46

*The number of clinical scientists on the HCPC website indicates total number across all specialities and does not indicate the number of those in audiology. This data reflects December 2021.

Non-probability sampling is predominantly used for participant selection in qualitative research as it allows the selection of specific participants (Ritchie *et al.,* 2014). The topic of this study determined the boundaries of the sample, therefore, a purposive sampling (Ritchie *et al.,* 2014) strategy will be used as the researcher aims to obtain a homogenous sample of participants (audiology professionals) within a specified context (audiology profession). It is acknowledged that there will be variables such as age, gender, location, experience, and training which supports the view that criterion-based sampling should allow for some variety within each key criterion, so that the specific impact can be explored (Ritchie *et al.,* 2014). The following inclusion (table 24) and exclusion criteria (table 25) were considered as part of the process of sampling for both stages:

Table 24 – Inclusion criteria

Inclusion criteria
1. Audiology professionals who qualified in the United Kingdom and are currently working in the United Kingdom.
2. Audiology professionals who qualified outside of the United Kingdom but are currently working in the United Kingdom.
3. Audiology professionals working as Hear(ing) care assistant, Hearing Aid Dispensers, Audiologists, Assistant Audiologists, Clinical Scientists, Consultant Clinical Scientists, Lecturers, Hearing Therapists.

Table 25 – Exclusion criteria

Exclusion criteria
1. Audiology professionals who are not currently working in the United Kingdom.

5.4.2 Sampling error and bias

Random sampling of a population provides the researcher with a mechanism to select participants from a known population size, resulting in the ability to generalise the results to the wider population. It is possible to determine the exact size of the representative sample providing the researcher with powerful evidence with a reduced risk of sampling error or bias (Ruel, Wagner and Gillespie, 2018). Nonprobability sampling is often used when the total size of the sample cannot be determined. This study focuses on a specific population (audiology professionals) but the exact number of professionals in the UK is unknown. The sample is not homogenous as it contains a variety of different professionals. Therefore, it is difficult to ensure exact representation by using a quorate sampling strategy for example (Ruel, Wagner and Gillespie, 2018). Additionally, because I am not using randomness to select the sample it is not possible to estimate sampling error or bias so it may not be possible to know with any certainty if the sample represents the population or not (Ruel, Wagner and Gillespie, 2018).

Sampling error and bias were considered for both stages of this study and attempts were made to ensure that selection of interview participants was based on documented evidence of involvement in the different roles in the profession (hearing aid dispenser, audiologist, clinical scientist, and hearing therapist). Selection of survey respondents was based on the self-selection of professionals working in the United Kingdom and access was helped via circulation to the representative organisations.

The representation across the sample used in stage two will be considered in the results section.

5.4.3 Sampling by stage

Stage One – Interviews

Recruitment of participants for stage one depended on purposive sampling (key actor selection) as participants were selected based on work experience, training as well as experience of and involvement in the current changing context of the profession. Key actor selection for interviews can provide the researcher with the opportunity to explore topics in more detail in comparison to survey respondents who respond to specific questions (Fetterman, 2020). Selection of interview participants for this stage began with the identification of key audiology professionals that hold relevant, a priori, 'insider' information by virtue of their senior positions, giving credibility to their views on events shaping the profession. All interview participants met the inclusion criteria listed in table 2 but in addition took part in the decisions and were thus informed at first hand, and not expressing mere opinion based on second hand accounts. This included individuals who participated in modernisation programmes as documented in various publications e.g., Modernisation documents such as the PHIS report and *Audiology Services: Fifth Report of Session 2006-2007* by the House of Commons Health Committee as well as any affiliations with professional organisations and publications around education and service changes.

Selection of key actors require careful consideration as they are not completely representative of the group under study. They do provide the researcher with detailed historical information, knowledge about relationships, including conflict allowing the researcher to integrate information across participants to understand the wider social group (Fetterman, 2020). Table 26 provides information about the selection criteria for identifying key actors in audiology in stage one.

Table 26 – Key actor selection criteria for interview participants

Professors and lecturers in audiology
Presidents and chairs of professional audiology organisations in the UK
Principals of UK Schools of Audiology
Heads of Service (NHS and private sector)
Individuals leading on curriculum design and accreditation of courses in various PSRBs (professional, statutory, and regulatory bodies)
Individuals leading on the review and modernisation of audiology services

Representation across the 4 groups considered in this study (audiologists, hearing therapists, clinical scientists, and hearing aid dispensers)

Audiology in the UK is a small profession, and the researcher could contact prospective participants through participation in various professional body related committees as well contacts with Higher Education Institutes offering audiology degree programmes.

Figure 17 provides an overview of the order of selection as well as the connections between participants. Participants one, two, and eight were purposively selected with participants one and two leading to participant three. Participant three provided a link to participants four, six and seven with seven also linking to participant six. Participant two also linked to participant five. The selection of participants three, four, five, six and seven were not based on recommendations from other participants but rather because they were listed as participants in key events.
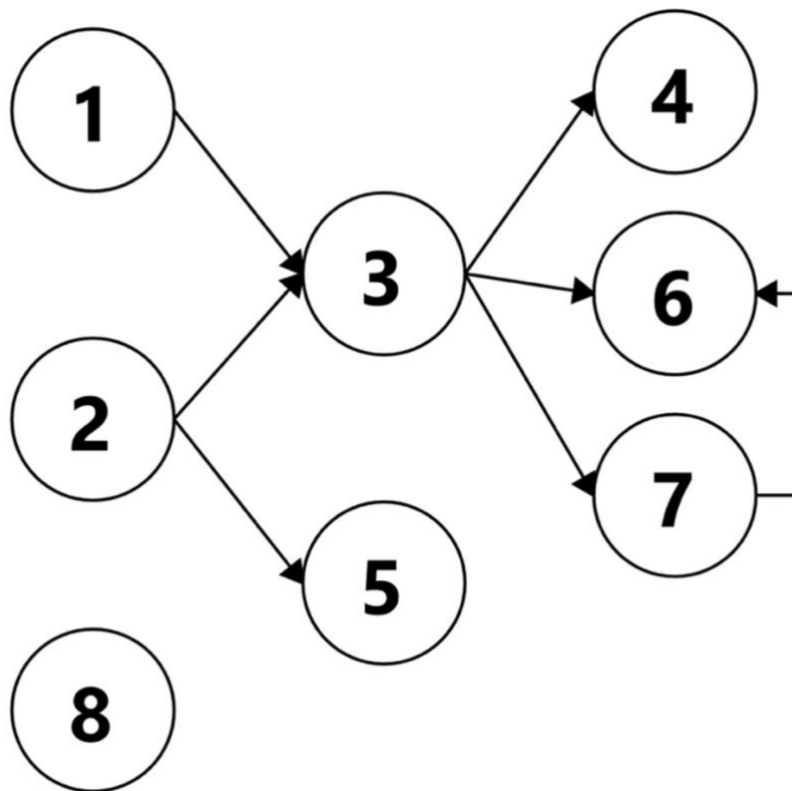
Figure 17 – Selection order of interview participants

Stage Two – Survey

The eight participants in the first stage qualified before the introduction of undergraduate university pathways to becoming an audiologist and hearing aid dispenser. This limited the understanding of the experience of the audiology professional but provided an opportunity to gather information on the experience of becoming and being an audiology professional before the introduction of undergraduate university pathways. The survey focused on strands one and two of the research question to gather more data on the various professionals' pathways to becoming an audiology professional well as their experience of being one both before and after this key event. Table 27 provides an overview of the membership types and numbers as well as distribution methods for each of the professional organisations. The membership numbers reflect membership at the time of data collection (March – June 2020).

Table 27 – Overview of the membership types and numbers as well as distribution methods

Professional Body	Audiology professionals	Member numbers	Distribution method	Cost	Possible overlap
British Academy of Audiology (BAA)	Audiologists	1825	Email and social media	Free	Yes
British Society for Hearing Aid Audiologists (BSHAA)	Audiologists (*mostly working as HAD*) Hearing Aid Dispensers (HAD)	1800	Social media		
British Society of Audiology (BSA)	Audiologists, Hearing Aid Dispensers, ENTs, Researchers, and others	940	E-update and as a news item on the website		
Association of Independent Hearing Healthcare Professionals (AIHHP)	Audiologists (*mostly working as HAD*), Hearing Aid Dispensers (HAD) in independent practice	100	Email		
Total possible reach of surveys:		**4665**			
Number of survey respondents:		**329**			

5.5　Data generation and collection

Data generation and/or collection will be discussed for each individual stage of the study.

5.5.1　Data generation and/or collection strategy

Stage One – Interviews

Data was generated in this stage by offering each participant in the study an interview via an online platform, Adobe Connect (P1 – P6) and Blackboard Collaborate (P7 – P8). The use of online platforms widened access to more participants and offered flexible appointments. Adobe Connect and Blackboard Collaborate is available on tablets and smart phones as well as computers. It requires access to broadband and in the case of a computer, a webcam, and headphones. It is like Skype, but it supports the ability to make audio-visual recordings of a conversation between participants, thereby offering a flexible approach to interviewing. The online platform required the installation of a free application which can be downloaded for Apple and Android products if a tablet or phone is used. Most of the participants accessed the virtual room via a computer and some through a tablet. Two of the participants had no access to a webcam so the interviews were completed without video input.

Each interview lasted an hour on average and included time for sorting out any technical difficulties. The audio-visual recordings were transcribed allowing for the analysis of the information gathered. A copy of each transcript was provided to the participant for his / her confirmation as part of the informed consent process. The transcribed interview, as well as the voice recording of each interview, was stored in a safe place (password protected) to ensure anonymity and confidentiality.

Stage Two – Survey

The online survey was created (see section 5.5.2) through JISC Online surveys (formerly BOS) and distributed to four audiology professional organisations in the UK who agreed to distribute it to their members via newsletters and social media platforms. The JISC online survey platform allows exporting of data to Excel for statistical analysis.

The survey was circulated between the 12th of March 2020 and the 3rd of June 2020. It was further extended to the 17th of June 2020 on request of one of the professional

organisations. In total 329 responses were collected with seven screening out via the first question. The social media platforms for these organisations allow access to non-members which includes audiology professionals outside of the UK. The first question acted as a screen to ensure that responses were collected from professionals working in the United Kingdom. It is worth noting that 689 respondents accessed the first page of the survey of which 329 (48%) completed the survey. Response rates for the period between 12 March 2022 and 17 June 2022 are summarised in table 28.

Table 28 – Response rate for the period between 12 March and 17 June 2022

Period	Number of responses
12 March 2020 to 3 June 2020	311
4 June 2020 to 17 June 2020	18
Total	329

Most responses were collected in April 2020 with 163 completed surveys. It should be noted that this survey was circulated at the onset of the COVID19 pandemic.

5.5.2 Design of data collection tools

The data collection tools for this study were designed in stages. The first stage of data collection involved the design of a set of topics and questions (interview topic guide) (appendix 6) intended to scaffold an open discussion around the interview participants' experience of becoming and being an audiology professional in the UK. The results from this stage were analysed (section 6.3.1) and provided a framework to design the survey (section 6.5) to collect data from the wider profession in stage two.

Stage One – Interviews

The interview topic guide (appendix 6) was designed to assist with the structure of the interviews, and it included both specific and general questions to support an in-depth discussion of the topic under investigation. A set of interview topics helps the researcher with the direction and focus of the study (Marshall, Rossman and Blanco, 2022). Utilising the stages of the interview set out by Ritchie and Lewis (2003) and Richie *et al.* (2014, p. 189) to design the topic guide, I piloted the use of online technology and the interview schedule with three audiology professionals who qualified and worked in the United Kingdom. This pilot provided an opportunity to test the online platform and to design the participant guide to accessing the online platform

as well to check the recording process. It also provided an opportunity to practice interview skills and to gain familiarity with the interview schedule to ensure all the areas are explored within the allotted timescale. On completion and review of the pilot the first interviewee was contacted, and the first interview arranged.

Stage Two – Survey

The online survey focused on gathering information about becoming and being an audiologist in the wider audiology profession. The analysis of the eight interviews provided a framework for the themes to explore in the survey and I also reviewed two surveys constructed by Helen Goulios as part of the data collection for her PhD study in 2010 (Comparative audiology and the development of a seeding model for affordable and sustainable audiology education). The workforce survey provided a template for designing questions for this study in terms of good phrasing as well as options to select from and I adapted the questions for the United Kingdom context and added new questions. The questions were divided between the following two sections of the research question (table 29). Section 6.5 will discuss how the survey was designed using the interview results.

Table 29 – Link between research strand and relevant survey questions

Research Strand	Topic explored	Relevant questions used in the survey.
The experience of **becoming** an audiology professional	Demographics	Questions 1 to 6
	How and why, they chose audiology as a career?	Questions 7 to 11
	Which route(s) they followed in becoming an audiology professional?	Questions 12 to 13
	Which audiology professional they identify as?	Questions 22 to 23
The experience of **being** an audiology professional	Which work context they are employed in?	Questions 14 to 15
	What is their professional expertise, registration status and professional body membership?	Questions 16 to 21
	What is the perceived difference in scope of practice between the different audiology professionals?	Questions 24 to 25

The third strand of the research question focused on the impact of change in education pathways and service delivery on the audiology professional and this was not included in the survey stage.

5.5.3 Evaluating quality of survey

The online survey was piloted in two phases. Phase one involved feedback from the supervisory team and in phase two the draft survey was circulated to a panel consisting of the eight interview participants. A survey Validation Rubric for Expert Panel (VREP) (appendix 11) was circulated to panel members to allow for feedback. This feedback facilitated the development of the final survey. The two draft versions of the survey with revisions and comments can be found in appendices 12 and 13.

Phase One:

The first draft of the survey consisted of 28 questions, and it was circulated to my supervisory team (director of studies, second supervisor and third supervisor). My director of studies is an allied health professional but not an audiologist and the rest of the team are audiology professionals. The composition of my team provided a good balance for review as it considered the phrasing and flow of the survey questions as well as the detail relevant to audiology. This process also provided an opportunity to see what the collected data would look like to determine if the structure of the question would support analysis or complicate it. Appendix 12 provides an overview of changes to questions as well as comments that resulted in the second draft.

Phase Two:

The second draft was circulated to the eight interview participants for comment and seven participants provided feedback. Appendix 13 provides an overview of the changes and comments. The comments and changes initiated by the circulation of the second draft was discussed with my supervisory team and I then created the final version for circulation. Both drafts were circulated between January and February 2020 and finalised in March 2020.

The final version of the survey with question and data type can be seen in appendix 14.

5.6   Data analysis procedures

The procedures used to analyse and generate data will be discussed for each stage of the study.

5.6.1 Stage One – Interviews

Marshall and Rossman (2016 p. 215) have commented that "the process of bringing order, structure, and interpretation to a mass of collected data is messy, ambiguous, time-consuming, creative, and fascinating. It does not proceed in a linear fashion; it is not neat." To support the structured analysis of the data, the general phases outlined below were followed (Marshall and Rossman, 2016) with variation as required:

a) *Organising the data*
b) *Immersion in the data*
c) *Coding the data*
d) *Writing analytic memos*
e) *Generating case summaries and possible categories and themes*
f) *Offering Interpretations*
g) *Searching for alternative understandings*
h) *Writing the report or representing the inquiry*

All the phases of analysis above were completed before moving on to the next stage of the methodology. More detail on how these phases were followed can be found in section 6.3.1

5.6.2 Stage Two – Survey

Descriptive statistics were used to analyse the data collected through the survey as the data represents a sample of individuals (audiology professionals) from a larger population (UK audiology profession). Most data points were presented through a combination of tables, graphs, and charts that help to understand the variable's distribution, central tendency, dispersion, and relationship to another variable (Brown Breslin, 2020). The questions in the survey consisted of four data types that included grouped frequency distribution (three), nominal (13), ordinal (one), and open (15). The analysis was discussed with the QMU statistician. Of the four data types the first two (grouped frequency distribution and nominal) allowed for univariate (single variable) analysis, whereas the question focused on collecting ordinal data required multivariate (analysis of more than two variables) analyses (Brown Breslin, 2020). The open answer questions provided an opportunity for an answer specific to the participant, requiring open coding to analyse the responses.

5.7   Limitations and delimitations

The limitations and delimitations of this study will now be discussed.

a) *Researcher Bias*

This was carefully monitored through the support of a mentor and the researcher kept a reflective journal throughout

b) *Sample size:*

Determining sample size for both stages of the study was difficult to determine at the outset. For stage one this was guided by achieving theoretical sufficiency as part of data generation but for stage two this was more complicated. The sampling frame for the online survey consisted of a specific population that included four types of professionals identified at the beginning of the survey allowing for self-selection. Self-selection bias is out of the control of the researcher in online surveys (Fielding, Lee, and Blank, 2017) – especially if the link to the survey is posted on a range of different online sources. Another area of concern in this study is coverage error (Fielding, 2017) as there was a risk that the survey may not reach the four different audiology professionals ensuring good representation. A meta-analysis of the response rates of online surveys by Wu, Zhao and Fils-Aime (2022) indicated an average response rate of 44.1% and this study reached a response rate of 48%.

c) *Design of data generation and/or collection tools:*

The pilot design and review process for both data collection tools allowed for an opportunity to assess and refine the tools before the interviews of participants and circulation of the survey. The survey questions were assessed for measurement error resulting in more comprehensive answers across the respondents. It should be noted that some of the questions did require complex responses or a large range of answers to consider which could potentially explain why 689 respondents accessed the first page with only 329 completing the survey.

d) *Generalisation of findings:*

It is not possible to generalise the results from the interviews due to the sample size but also the fact that the participants joined the profession before

modernisation (both MHAS and Modernising Scientific Careers (MSC)). As for the survey it is not possible to determine how many audiology professionals had sight of the survey nor is it possible to know the overall number of audiology professionals in the United Kingdom. Therefore, it is not possible to determine whether this study is a representative sample of the total population. However, it does provide some insight into the experience of becoming and being an audiology professional and this will be discussed further in chapter seven.

5.8   Summary of Chapter Five

The first stage of the study **(Qualitative)** consisted of interviews to explore the phenomena of becoming and being an audiology professional in the United Kingdom. The interviews sketched a picture of a fragmented profession with many recognised pathways and identities, influenced by an ever-changing context. This led to the second stage **(Quantitative)**, a survey of UK audiology professionals providing an opportunity to capture the wider audiology population's experience of becoming and being an audiology professional. The next chapter will provide the findings of both stages of this study.

Chapter Six: Results

6.1 Introduction

In chapter six the results of both stages of data collection will be presented, starting with a summary of data management. Analysis was performed according to the specific methodological approach outlined in chapter five. The first section will present the qualitative analysis of the interviews followed by the second, quantitative analysis of the data collected though the survey. The chapter will conclude with a summary.

6.2 Management of data

Stage One: Participants received information about the study and how data will be collected, as well as consent forms. A numbered file was created for each participant on the Z drive of the Queen Margaret University server, linked to the researcher's password protected account. Consent forms were scanned and stored electronically with hard copies destroyed. Recordings were downloaded as mp4 files, saved, and deleted from the online platform. Each interview was transcribed, and transcriptions confirmed by the participant, after which identifiable information was blacked out. The transcripts were then prepared for upload to NVivo12 software. The findings from this stage provided the structure for the survey.

Stage Two: The survey was created on the JISC online survey platform – formerly Bristol Online Survey (BOS). The software allows for anonymous responses to be collected via a weblink that can be circulated electronically. The survey was circulated via four audiology professional body organisations during May and June 2020. The advert was circulated on social media and via newsletters. Data is stored on the platform and the account is password protected and linked to the researcher's Queen Margaret University profile. Online surveys allow for the extraction of the data in an Excel spreadsheet that can be analysed via Excel and SPSS. In total, 329 surveys were completed.

6.3 Interview analysis

The interview transcripts and notes collected during the interviews were then read and reread with thew aim of performing open coding. The interviews explored the participant's journey as an audiology professional and they were encouraged to share their experiences from when they first joined the profession. The open codes were

reviewed and grouped into categories that were allocated to themes. There were 9 categories which were grouped into three themes. Table 30 provides an overview of the themes and corresponding categories.

Table 30 – Overview of themes and related categories

Categories	Themes
First exposure to audiology	
Many roads to becoming	Becoming the professional
Who am I?	
Setting the scene	
Tribal views	Being the professional
Continuing their professional development	
The Individual	
The Tribes	Influences on the profession
The Employer	

6.3.1 Phases of data analysis according to Marshall and Rossman (2016)

a) Organising the data

Throughout the collection of data, a log of the interviews was kept, and the researcher summarised the gathered data in Nvivo12 for easy retrieval.

b) Immersion in the data

After each interview the recording was transcribed, and a copy sent to the participant for confirmation. Participants were then able to identify any information that they would like to be removed. Before sending I ensured that transcripts were anonymised by removing any identifiable information. Each transcribed interview included the interviewer's questions and responses to add context. I then spent additional time reading the transcript to become familiar with its content, repeating this process once all the interviews have been completed.

c) Coding the data

Immersion in the data followed an inductive process that allowed codes to emerge from the interview transcripts (in vivo codes).

d) Writing analytic memos

During the coding process I made notes of my thoughts on how the data was coming together in clusters. This process helped to see how the patterns were emerging. Steps b) through d) where repeated after each interview and linked back to the sampling strategy to determine the sample size for the interview stage.

Determining sample size before data collection begins in qualitative research is challenging especially for an inductive, exploratory approach to exploring a phenomenon (Sim *et al.,* 2018). I used an adaptive approach (saturation) to determine a sufficient sample size which can be described as 'an iterative, context dependent decision made during the analytical process as the researcher begins to develop an increasingly comprehensive picture of the developed themes, the relationships between these themes, and where they conceptual boundaries of these themes lie' (Sim *et al.,* 2018, pg. 630).

During this phase I applied the 'data saturation' model as proposed by Saunders *et al.* (2018), and this model primarily focuses on data collection during the research process. Saturation in this model is based on informational redundancy and can be achieved early in the research process, typically before formal analysis. It represents the degree to which new data repeats what was expressed in previous data (Saunders *et al.,* 2018). Data saturation was achieved after the eighth interview, and this was a decision based on the information I was hearing within the interviews.

The transcripts were then uploaded to qualitative analysis software (Nvivo12), and I spent time highlighting the codes identified in the paper copies.

e) Generating case summaries and possible categories and themes

The next phase began as a paper-based exercise where each transcript was organised in such a way to include space on the left- and right-hand margins for notes and comments. The first stage of this process involved reading the transcript and the field notes and then making notes on the left-hand margin of the transcript. I then attempted to transform these initial thoughts and comments into categories. The identified categories were written in the right-hand margin of the transcript.

Once categories had been identified I worked to establish connections between them and clustering them appropriately into themes to create a coding scheme (table 31). Nvivo12 facilitated this process by helping me to visualise the organisation of codes to identify categories and themes.

This phase provided an opportunity to generate brief case summaries of the interviews that helped identify the recurring ideas and patterns linking the participants beliefs.

Table 31 – Coding Scheme

Category	Relates to	Theme
First exposure to audiology	How the participants found out about audiology. It varies from personal experiences to accidental with no previous knowledge of the profession.	Becoming the professional
Many roads to becoming	The different pathways from researcher turned clinician, learning on the job, and gaining a qualification later, as well as combination of vocational training and university/college learning.	
Who am I?	Which of the various titles they use? It is often more than one.	
Setting the scene	Fragmented profession of many different titles and tribes in audiology.	Being the professional
Tribal views	Awareness of how the tribes view each other.	
Continuing their professional development	The motivation to develop further as identified by participants. At times this involves joining another tribe.	
The Employer	The role of the employer in regard becoming and being an audiologist.	Influences on the profession
The Tribes	The many roads taken to attempt unification of practice and education. The question of ownership – as evidenced in the development of the tribes.	
The individual	The influence of individuals in the profession's development.	

To assess the reliability of the coding scheme a second coder (with experience in qualitative analysis) was asked to re-code a sample of the transcripts. This process included discussion around the definitions of the coding system to ensure there is a shared understanding between coders. Following the second coder's coding of the sample transcripts consistency of codes were found.

f) Offering Interpretations

This phase is about offering integrative interpretations of what has been learned. As coding progressed and I started to cluster information together into categories and then themes, a story began to emerge offering an interpretation of the data – that of the experience of becoming and being an audiology professional as well as the influences on the profession.

g) Searching for alternative understandings

During this phase I attempted to critically analyse and challenge the relevance of the identified themes as they emerged during analysis. Alternative understandings were considered to justify my understanding by focusing on the research question.

h) Writing the report or representing the inquiry

Writing up the results for Phenomenology takes the form of a narrative as themes are explained and discussed by using verbatim examples from the actual transcript. Care was taken to clearly differentiate between what the participant said and how it is understood or made sense of by the researcher.

All the steps of analysis discussed above were completed before moving on to the next stage of the methodology.

The themes describe the participant's journey from becoming a professional to being one, as well as their observations of the influences on the profession. Figure 18 is a visual representation of the relationship between the individual participant, the profession, and the themes. The tree symbolises the individual located in the profession. The roots represent the decision to ***become* the professional** which happens through different routes, but all participants then move on to grow (***being the professional)*** within the chosen context becoming part of the profession (the

tree). The tree grows within the *influences* **on the profession**, as experienced by the participants.
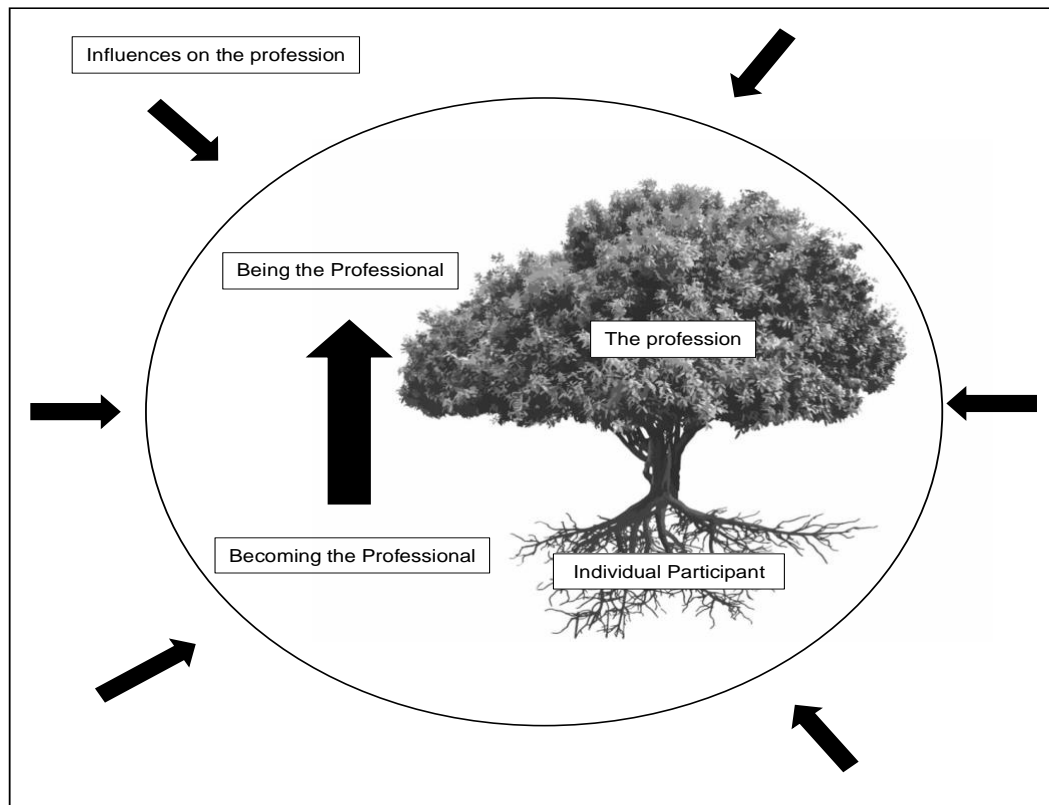
Figure 18 – Relationship between the Individual participant and the themes

6.4 Stage One: Interview results

I will now present the themes and related categories with reference to the participant quotes.

6.4.1 Becoming the professional

The first theme is **becoming the professional** and the three categories in this theme are:

a) **First exposure to audiology**
b) **Many roads to becoming**
c) **Who am I?**

a) *First exposure to audiology*

The interviews started with each participants' journey into the profession and this category captures the range of **first exposures to audiology**. Participant four sums up the experience of becoming aware of the profession by referring to it as accidental.

None of the participants actively decided to enter the profession of audiology. It came about through a journey that ranged from employment to research projects.

Participant 4

"…, it's purely by accident. Purely by accident."

Figure 19 provides a visual representation of this category and the overarching accidental nature of exposure to the profession.
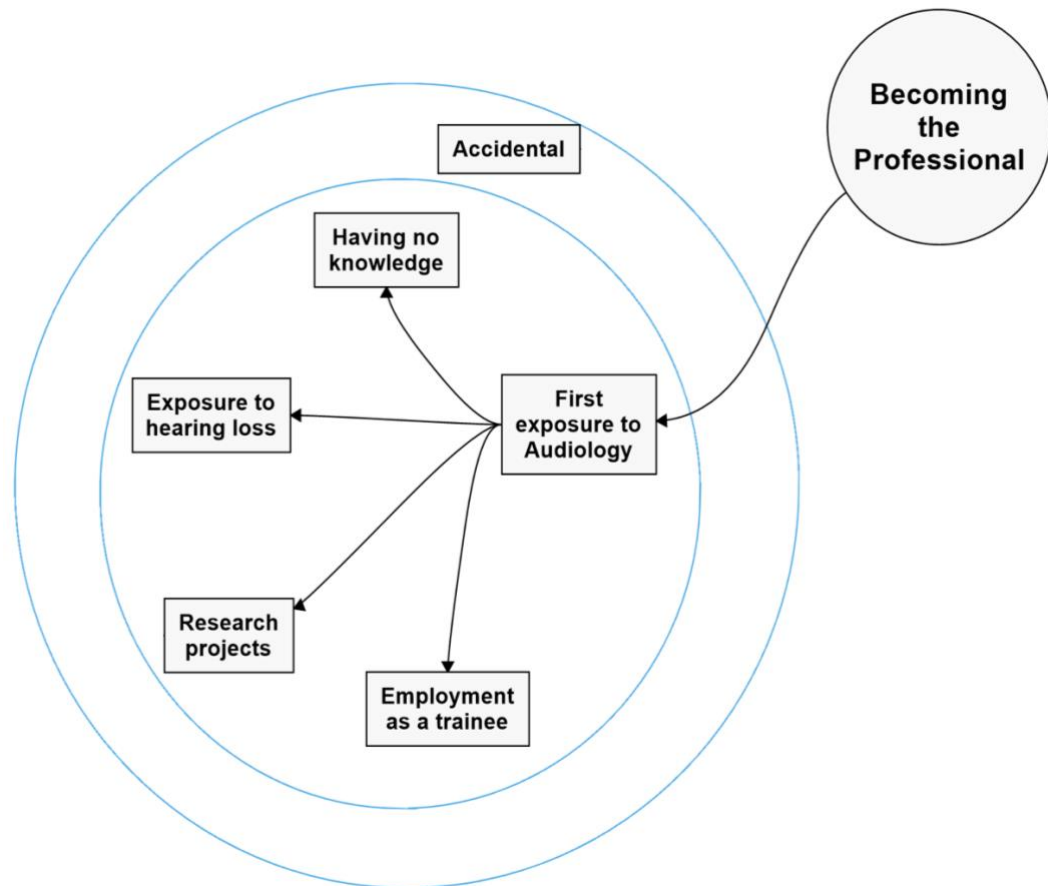
Figure 19 – Visual representation of first exposure to audiology

Participants one, two, three and seven described having no knowledge of audiology prior to their employment.

Participant 1

"And I knew nothing about children and nothing about deafness.
Uhm, so from about '74 I knew nothing through to about, nothing about audiology, through till '79."

Participant 2

"I had no previous motivation for audiology before I got into the health service."

Participant 3

"So, that was kind of how it came about, that I entered audiology, and I didn't really know anything about the world of audiology at all"

Participant 7

"I knew nothing about audiology at all, I just saw the advert in the paper, and as I said it met both my career aspirations of wanting to work in the care industry, and tinker with electronics. I left school in the April and joined the hospital on ▮▮▮▮▮▮▮▮▮*."*
"So, I knew nothing about audiology beforehand."

Participant four mentioned a family member with a hearing loss.

Participant 4

" And I must admit, my father's mother she'd got a shocking hearing loss, absolutely awful, and I used to go up to see her on a Sunday to have my lunch and do a few jobs for her and one thing and another."

Before the introduction of the BSc (Hons) Audiology degree courses, audiology education consisted of posts where the employee is appointed as a trainee and sent on distance learning courses. For some participants this was their first exposure to audiology.

Participant 2

"I had done a year of 6th form and A levels and had become somewhat disillusioned with school, stopped learning, fed up kind of thing and my parents had seen the advert for a supernumerary student in medical physics, physiological measurement in the ▮▮▮▮▮▮▮▮ *and helped me apply for that."*

Participant 5

"In ▮▮▮▮*, I came to* ▮▮▮▮▮ *to train as a teacher, I got my certificate in education from the* ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮ *in* ▮▮▮▮*. I then went on to do the* ▮▮▮ *course but unfortunately failed the maths, passed the education with flying*

colours but I was lucky to get a job in a residential school where children had special needs, it was the ▮▮▮▮▮▮▮▮▮▮▮▮▮▮ where the children lived on site and we had extra duties in the evening to do and at a weekend.

During this two years, because I'd failed the degree, I was obsessed that I wanted to get a degree, so I started along the track of a science and education degree through the Open University, which I got in ▮▮▮▮.

However, having been a teacher from '73 to '75, the amount of hours you had to work and the type of children I worked with just wasn't for me, so I left teaching and I got a student audiology post at ▮▮▮▮▮▮ Hospital in ▮▮▮▮, in September ▮▮▮."

Participant 7

"I saw an advert in the paper in ▮▮▮▮, having just left school at 15, for a junior hearing aid technician at ▮▮▮▮▮▮▮▮▮▮ Hospital, which I applied for and got, that was really my motivation, I wanted to work in the Health Service in some form, and this sort of met my caring attitude and also my tinkering with electronics."

Participant 8

"Yes, it is a rather long story but when I was at school, I was not too clear about what I wanted to do but I was most interested in teaching,"

"I thought, "what the heck am I gonna do?", "Do I go back to ▮▮? I thought "No", so I was looking through the county newspaper one day, the ▮▮▮▮▮▮▮▮▮▮▮▮ I think it was called, and was just looking to see what vacancies there were and thinking what I might do and I saw this advertisement for paramedical field and it was a company called ▮▮▮▮▮ and they were holding interviews in ▮▮▮▮, so I had the application and thought "oh paramedical field? Oh, I fancy being a doctor rather than a ▮▮▮▮▮". So anyway, little did I know? I phoned up and asked more about the job, and the job was as a trainee hearing aid dispenser, they asked me to go along to one of their ▮▮▮▮▮ practices, very, very nice practice it was too, to have a look and see how it functioned and to have an interview with the regional executive."

Participants one and six both became aware of the profession through research activities and previous studies.

Participant 1

"*I got in touch with my old professor who was at* ▮▮▮▮▮ *and said have you got any jobs and he said actually there's someone in the* ▮▮▮▮▮▮▮ *hospital who contacted me, looking for a research assistant for a year to work on reading ability in deaf children.*"

Participant 6

"*The undergraduate programme I was on included quite a bit of acoustics and also hearing as part of that, and in my third year, final year research project, I carried out a study based on binaural hearing, ability to separate out and speech coming from one direction from competing speech coming from different directions, so that would have been in* ▮▮▮▮▮*, so I guess that puts a firm date on when I was interested in things to do with hearing at least, not necessarily hearing loss.*"

From **first exposure to audiology,** we then move on to the **many roads to becoming** an audiology professional.

b) Many roads to becoming

Each participant described the pathway they followed and what was striking from the interviews is the variety of different pathways to joining the profession. Table 32 provides an overview of the participants' various routes to becoming an audiology professional, in no order.

Table 32 – Various routes to become an audiology professional

Range of pathways
Hearing Aid Council examination
ONC Medical Physics/ Physiological Measurement BAAT Parts I and II
Certificate of Hearing Therapy
PhD Audiology
ONC Medical Physics and Physiological Measurement HNC Medical Physics and Physiological Measurement Audiology Part 1 PhD Psychology
BSA Parts 1 and 2 exams BTEC National Certificate in Medical Physics and Physiological Measurement HNC Medical Physics and Physiological Measurement
MSc Audiological Science Audiological Scientist training programme

The participants describe different pathways from "*researcher turned clinician*" to "*learning on the job*" and gaining a qualification later, as well as combination of vocational training and university/college learning. Overall, there is a thread pulling through the interviews that is "*learning on the job*". Some participants completed their training while they were doing research projects and teaching. Participants one and six started their careers in audiology through research and additional experience but the rest (P2 – P5 and P7 – P8) were employed in various trainee posts in audiological services, in both the NHS and private sector.

Participant 1

"So, I did a degree in psychology."

"So, I stayed on and did a PhD."

"Uhm, so I worked for a year with him and then another person who worked at that unit, it was a clinical unit, but it had a, strangely, it had a research arm. It wasn't a teaching hospital; it was a busy district general hospital, ▮▮▮▮▮▮▮▮▮▮▮▮. *Uhm and, but it had one or two posts who were funded to do research curiously."*

"Uhm, but by 1985 ▮▮▮▮▮▮▮ *retired and again the right place at the right time, I applied for and got his job as Head of Audiology services,* ▮▮▮▮▮▮▮.*"*

"Now how did I get to be an audiologist in that period? Well, I just kind of looked around and thought this is pretty interesting so I made it my job to learn on the job so to speak."

"I sat in with people, I taught myself how to do things, I went away and sat with others and I did a couple of visits, there was one particular useful one, I went over to work with ▮▮▮▮▮ *in* ▮▮▮▮▮▮ *and ah briefly,* ▮▮▮▮▮▮ *in* ▮▮▮▮▮▮, *for about 3 months and uhm by that time I kind of knew what I didn't know so I was able to really cram in a lot of more advanced stuff."*

Participant 6

"Whilst I was finishing my Master's degree, I started my PhD around then, the first MSc in Audiology started at ▮▮▮▮▮▮ *in* ▮▮▮, *so I was aware of the developing*

Master's course and I had some involvement in teaching on that during that period, so while I was a PhD student, so I was involved in teaching audiology students right from then and I picked up a fair bit about audiology along the way, whilst I was doing that, without having formal structured teaching.

After I completed my PhD, I had a job as a research fellow, again in the same department, I continued teaching on the audiology programme and in fact, I sat in with the students and did the full lecture course later in that period of time and took exams and everything, although I didn't register for the ▮▮▮▮ and I didn't do a research project because I'd done a load of that already, but in fact I qualified myself as an audiologist through the MSc by doing that."

Participant eight completed a non-healthcare related undergraduate degree and spent some time working in the family business before changing careers. This participant applied for a trainee hearing aid dispenser post with a private hearing aid dispensing company and completed the Hearing Aid Council (HAC) training pathway and exam.

Participant 8
"I saw this advertisement for paramedical field, and it was a company called ▮▮▮▮ and they were holding interviews in ▮▮▮▮, so I had the application and thought "oh paramedical field? Oh, I fancy being a doctor rather than a lawyer". So anyway, little did I know? I phoned up and asked more about the job, and the job was as a trainee hearing aid dispenser".

They were very, very uncomfortable because I was ▮▮▮▮ graduate, I wasn't their usual applicant… They said "you are way overqualified for a job like this" … remember this goes back to the 1970s, when the sector was very different, more commercial, dominated by a small number of large companies, a very, very different world. I said I liked this job and they said "well, we will give you a six month trial period"… with a training course before I can actually start, and then very, very different, a three week training course, you had a registered supervisor, registered with the old Hearing Aid Council and you worked with the supervisor but you didn't have to be with each other at all. So, I had my three weeks of training and then was thrown out into the real world […]. I formed an arrangement with a large network of ▮▮▮▮ and there were ▮

██████ practices they wanted me to visit, not all of them every week so I had ██ and they were spread over ██████ and in ██████ as well.

"So, there was the theory examinations run by the Hearing Aid Council, they have an examining body as well and the practice".

Participant three completed a course in Hearing Therapy that included placements in the NHS as part of a funded post.

Participant 3

"Advertised for a hearing therapist to join another hearing therapist and that was when the NHS was paying for training, I got a funded place to do the one year training programme at City Lit which was in Hearing Therapy."

"I had to go on placements as far as the hearing therapy training course, it was during that process, you were supposed to osmosis… osmotically imbibe what the NHS was about! It was very perplexing!"

"Oh yes, absolutely, it was almost all learning on the job!"

Before 2002/3, audiology education at an undergraduate level consisted of a vocational based training pathway with exams managed by the professional bodies. Participants two, four and seven completed versions of the professional body exams, with the title of the award linked to the organisation that existed at the time it was assessed. These exams were combined with a range of Higher Education Institute certificates and diplomas, typically Higher National Certificates (HNC), Higher National Diplomas (HND) and Business and Technology Education Council (BTEC) national certificate.

Participant 2

"So, right ok, well it goes back to being at school. I had done a year of 6th form and A levels and had become somewhat disillusioned with school, stopped learning, fed up kind of thing and my parents had seen the advert for a supernumerary student in medical physics, physiological measurement in the ██████ and helped me apply for that. And I didn't… that was the first interview I had ever been to, and I didn't get

that post, so I'd started school in the second year of A levels on the Friday. Somebody dropped out of that scheme at the last minute, that I had applied for, and they rang me up and so I started – left school on the Friday and started work on the Monday in this supernumerary scheme."

"You went away on a short course in ▮▮▮▮▮ *hospital in* ▮▮▮▮ *and then you started three months attachments. So, doing things like cardiology, respiratory, all the people we were traditionally aligned with in those days. Went to theatres and renal dialysis and stuff and at the same time we did day release at college at* ▮▮▮▮ ▮▮▮ *in* ▮▮▮▮▮ *where you did medical physics and physiological measurement."*

"*But what you actually did was kind of limited, so audiology was the first one where you really did something day in, day out during your attachment, you learned something, and you got better at it, and you could tell you were getting good at it you know"*.

"Yeah, it was a lot of on the job training".

Participant 4

"As I say, it was just by pure fluke I'd had a look in the local paper because I was looking for a job, and there was a job there for an audiology technician based at ▮▮ *Hospital as is now, the* ▮▮▮▮▮▮ *Hospital, and I applied for it and I got it, and the rest is history.*

"The first year consisted of undertaking the old BSA Part 1 examination, which is the theory part."

"BTEC National Certificate in Medical Physics a Physiological Measurement."

"Yes. As soon as I finished the BTEC I then went on to do my Higher National Certificate, and again that was somewhat more in depth. I did that over ▮▮▮▮ *it was Polytechnic back then, but it's now the University. So yes, we went into a lot more detail relating to that. And also, as well we did an awful lot of stuff with regard to*

medical physics as well, particularly interesting stuff like CT scanning, MRI scanning and stuff like that. It was looking at how these things actually worked."

Participant 7

"About 1969/71 I think it was, it might have been earlier, Zuckerman Report first introduced the ONC – the Ordinary National Certificate in Medical, Physics and Physiological Measurement along with the introduction of a new title 'Physiological Measurement Technician [audiology] although we were referred to as audiology technicians [2] and higher grade of audiology technician [1]

I wanted to do the ONC at my local technical college, being on the first course offered. There were approx. 7 students [1] from audiology, [3] Cardiology, [1] Respiratory Physiology, [1] Medical physics and [1] Pulmonary Function. During which time I became an audiology technician Grade 1; from that of a hearing aid technician."

"The moment I got my ONC, I enrolled on the HNC at ▮▮▮▮▮▮▮▮ Polytechnic;"

"Around ▮▮▮▮, I went to the Royal National Nose, Throat and Ear Hospital to complete the Part 1 as it was known of what was called The Society of Audiologists & Therapists. I still have all my certificates in the loft so I could check the dates if need be.

It was a three month full time course in ▮▮▮▮▮, which my hospital paid for the course taught me about hearing aids, physics, anything to do with hearing aids also the vestibular work, as it was at the time"

Participant five took up employment as a student audiologist and completed a postgraduate qualification in audiology in two stages. The first involved completing six theoretical modules and practical sessions with an exam. The second stage was a return to complete the MSc in Audiological Science.

Participant 5

"Now, during my two-year training, there were no official qualifications in audiology and the senior team audiologist sent us to ▮▮▮▮▮ University to do the six modules of the MSc course in audiology. So, these six modules provided the underlying knowledge, we did basic physics, computerisation, the normal ear, basic audiology,

advanced audiology and during these modules on the Thursday, all the MSc students came to ███████ *Hospital for a day's clinic practice, whereby you sat in audiology clinics, diagnostic work, paediatric work and you also sat in with the consultant ENT surgeon who oversaw the medical part of the MSc.*

So, I obtained the six modules and at the end of the two years, the senior chief audiologist… we had a theory exam to do and a practical exam to do, plus a viva with the consultant ENT surgeon, so that is how I became an audiologist."

"I became a chief audiologist but during this time, I decided seeing as I'd got the theory and the practical part of audiology, I applied to do the MSc part time at ██████ *and do the dissertation, which I got in* ████*. That was in audiological science."*

It is interesting to note that participants two, four and seven joined the profession on leaving school, so approximately between the ages of 15 and 18. Participants one and six joined the profession at PhD level and participant five completed an undergraduate degree in education. Participant eight completed an unrelated undergraduate degree before enrolling on the Hearing Aid Council course and participant three completed an undergraduate degree followed by a Lip-reading course before enrolling in Hearing Therapy. Figure 20 provides an overview of the **many roads to becoming.**
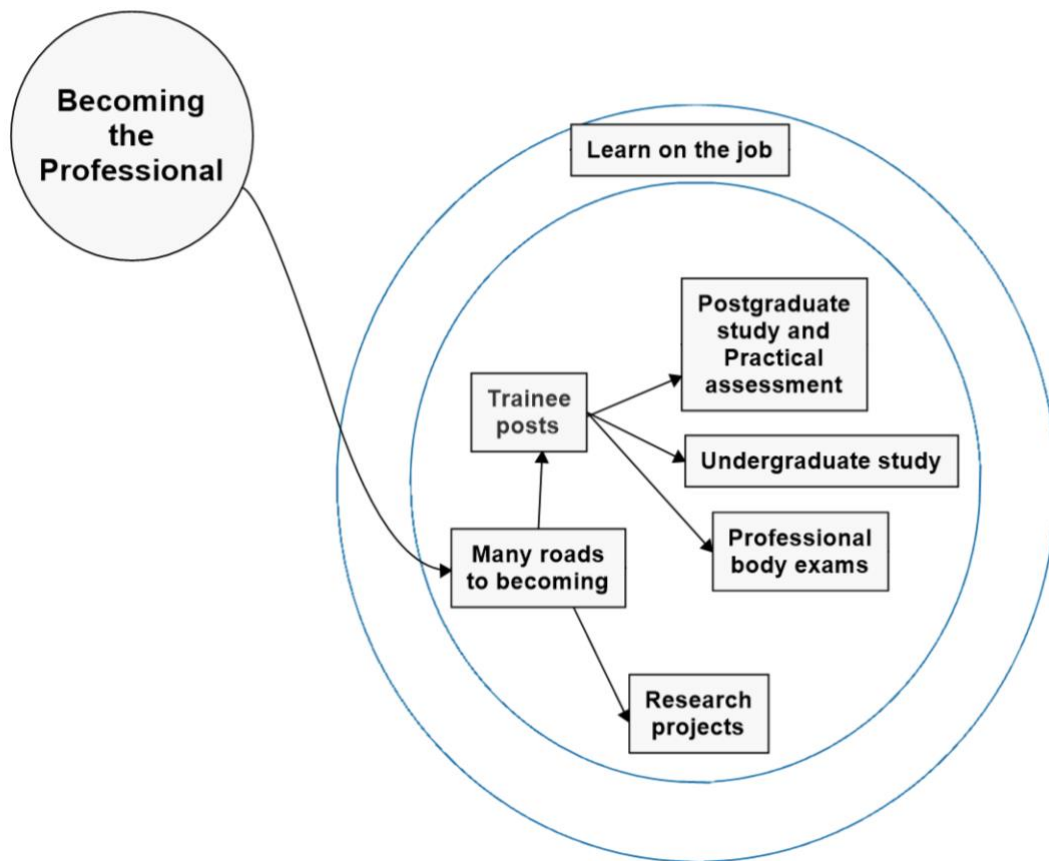
Figure 20 – Visual representation of the many roads to becoming

The experience of "*learning on the job*" appeared to have a mixture of positive and negative effects on the participants. It ranged from being an interesting learning experience to quite a challenging one and at times it taught a skill and not necessarily understanding.

Participant 2

"I was, at the end of 3 months, I was probably the bloody brilliant and the best I have ever been at doing the pure tone audiogram because I did loads and loads and loads and loads of them and I'd seen all the crossover bilateral conductives and all that and I'd got so good at it, and I had no knowledge. I was almost like an audiogrammer that somebody had said right this is all experiential training, this is how you do it. Did I understand what bone conduction and air conduction kind a meant? Well, no not really, but I could bloody well do it."

Participant 3

"I must say the training was singularly poor at preparing you for the working environment and without ████████ help, I don't think I would have stuck with it. [........] Because they didn't teach you anything about the NHS or the job role, they taught you the skills to deliver things, but they didn't actually teach you about the context!"

Three of the participants mentioned rotation with other clinical physiology professions while completing their courses. This was typical of the time and relates to the place audiology has within the healthcare system in the United Kingdom. It is considered a Clinical Physiology Measurement/Healthcare Science and not an Allied Health Profession.

Participant 2

"So, doing things like cardiology, respiratory, all the people we were traditionally aligned with in those days. Went to theatres and renal dialysis and stuff and at the same time we did day release at college at ████████████ in ████████ where you did medical physics and physiological measurement."

Participant 4

In the second year again, we still carried on with more advanced physiology and also physics as well, but we also undertook specialist lectures in all kinds of disciplines like cardiology, neurophysiology, audiology, medical physics, renal dialysis, you name it. It was a very broad area but obviously it was relating to the ologies and also medical physics and medical electronics as well.

"Yes. As soon as I finished the BTEC I then went on to do my Higher National Certificate, and again that was somewhat more in depth. I did that over ████████ it was ████████ back then, but it's now the University. So yes, we went into a lot more detail relating to that. And also, as well we did an awful lot of stuff with regard to medical physics as well, particularly interesting stuff like CT scanning, MRI scanning and stuff like that. It was looking at how these things actually worked."

Participant 7

"…I wanted to do the ONC at my local technical college, being on the first course offered. There were approx. 7 students [1] from audiology, [3] Cardiology, [1]

Respiratory Physiology, [1] Medical physics and [1] Pulmonary Function. During which time I became an audiology technician Grade 1; from that of a hearing aid technician."

"I did audiology, neurophysiology and respiratory physiology of all things, collectively,"

It was surprising to see the variety of pathways to become an audiology professional in the United Kingdom, when compared to other countries. It is a convoluted route and one often started with employment followed by study, whereas the typical route is study followed by employment. The variety of pathways complicate recruitment to the profession as it is not clear to a prospective applicant or employer, strengthening the sense that for most audiology professionals joining the profession was accidental. The joining of the profession is further complicated by the range of titles in use, as discussed in the next theme.

c) Who am I?

This category applies to the participants and the range of titles they used to refer to themselves during their careers. For some it changed depending on the context as well as any further qualifications. The profession of audiology currently has three regulatory bodies to choose from for registration to practice (as of 2021 there are only two). Two of the registers are voluntary (now merged) and one is statutory. This aspect plays a role in the titles used, as the titles of Clinical Scientist and Hearing aid Dispenser are protected titles linked to statutory registration. The titles of audiologist and hearing therapist are not protected, and they are linked to accredited voluntary registration. The term audiologist was not used in the UK until the 1970s according to participant seven.

Participant 7
"There was no such thing as an 'audiologist' until around the 1970s."

Some participants only referred to one title during the interview whereas others mentioned several titles, often linked to completing further studies and changes in employment structure and/or scope of practice. Figure 21 shows each participant's journey of titles over the years. Variations of titles such as audiologist/audiology/audiological to scientist/technician/technical are used. The

terms principal, consultant, chief, senior, and junior denote level of skills and/or experience and is possibly linked to the career framework used at the time.
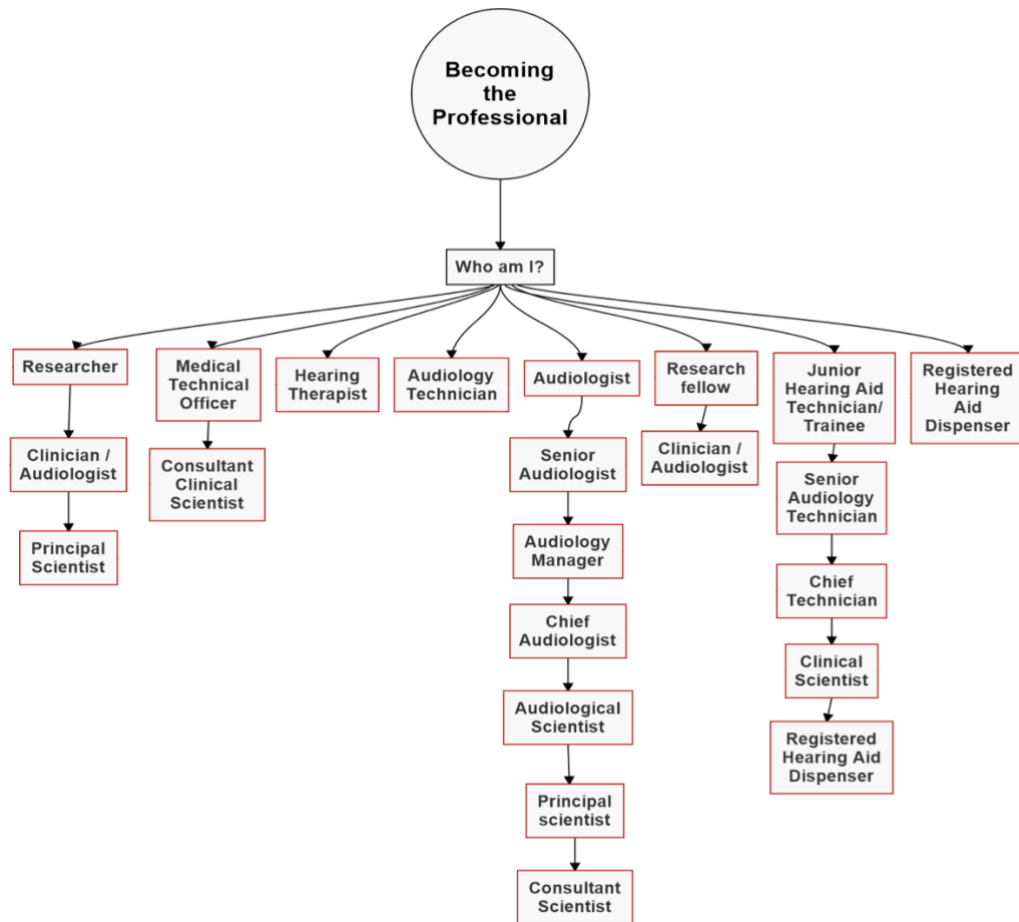
Figure 21 – Outline of all the titles used by the different participants

Participant 1

"Uhm, so then I was on a kind of permanent, I think it was called a principal scientist post."

"Now how did I get to be an audiologist in that period?"
"And he'd come through that route, physics and a PhD, so people had come through various odd, very often PhD routes, into audiology and provided a small core, of kind of leading ah, graduate, postgraduate uhm, either researchers or it was often the case turned into clinicians."

Participant 2

"You know he had gone off into commercial and worked with ▮▮▮▮▮▮ for a while and got a head of service in ▮▮▮▮ and I said I always loved doing audiology, but it's

kind of heading nowhere at the moment and he said funny you should say that I have got an MTO4 post here, you would be really good at that."

"It certainly helped enormously subsequently, there are times when inside you are going "oh my god, I would never have said I would do this years ago" but just by saying "well I have been assessed and I am a consultant clinical scientist" makes people listen to you more than if you are going "I am a head of audiology" sadly..."

Participant 3

"...so, I did that for a few years and then ▮▮▮▮▮▮▮▮ *Hospital advertised for a hearing therapist to join another hearing therapist".*

"When the NHS was paying for training, I got a funded place to do the one-year training programme at ▮▮▮▮ *which was in Hearing Therapy."*

Participant 4

"... and there was a job there for an audiology technician"

Participant 5

"So, I was a single-handed person there and in 1979, I became a senior audiologist and an audiology manager and that was '79 to '81 and then '81 to '89, I became a chief audiologist but during this time, I decided seeing as I'd got the theory and the practical part of audiology, I applied to do the MSc part time at ▮▮▮▮ *and do the dissertation, which I got in 1981. That was in audiological science."*

"... and I went to an interview to say that I was suitable to become an audiological scientist, so in '89 I was regraded to become a senior audiological scientist."

"And then because I'd missed out on all the years, I could have been a scientist and then they did the regrading of clinical scientists, I had to go through another interview and in 1990, I became a principal scientist."

"I applied for the Head of Service at ▮▮▮▮▮▮▮▮▮▮ *and during that time I became a, I went to principal scientist and a year later I became a consultant scientist, and I was always a state registered clinical scientist as well."*

Participant 6

"After I completed my PhD, I had a job as a research fellow, again in the same department, I continued teaching on the audiology programme and in fact, I sat in with the students and did the full lecture course later in that period of time and took exams and everything, although I didn't register for the degree and I didn't do a research project because I'd done a load of that already, but in fact I qualified myself as an audiologist through the MSc by doing that."

Participant 7

"When I first started, in ███ *I used to have to solder joints in the old valve aids. It was OL15 or OL35 as I remember, that's where I started to work in the Health Service. My first job was as a junior hearing aid technician or trainee I think it was as a junior, but there was no such thing as an 'audiologist' until around the 1970s."*

"Senior Audiology Technician"

"As Chief Technician"

Participant 8

"I passed both the examinations first time, so I became a registered hearing aid dispenser with the Hearing Aid Council."

All the terms in figure 21 were collected in a word cloud to consider frequency and is presented in figure 22.
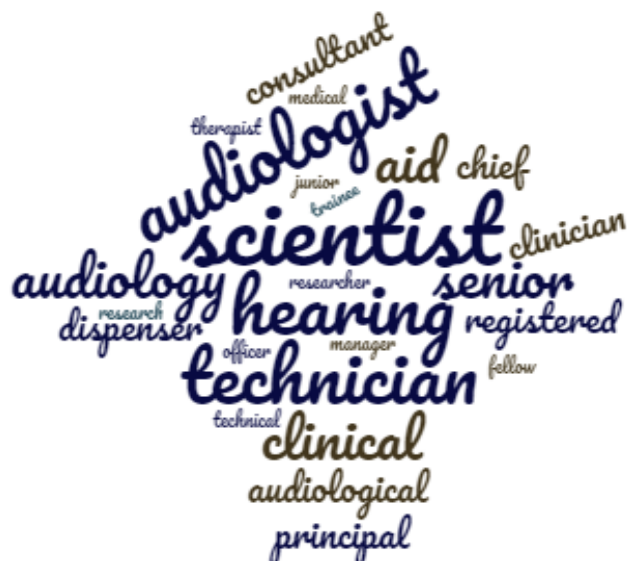
Figure 22 – Word cloud

The term scientist appears most frequently in the range of titles used with audiologist and technician next in line. Outside of the United Kingdom the term audiologist is more widely recognised and scientist, especially the protected title of "*clinical scientist*" in audiology, is limited to the United Kingdom. Participant one considered this discrepancy when discussing the origins of the term scientist in the 1980s.

Participant 1

"I thought it was a stupid idea. Because it implied somehow that there was something that could be an audiologist that wasn't a scientist ah but anyhow, they went ahead and chose that name and that then led to them then setting up the British Association of Audiological Scientists."

d) Summary

Becoming the professional is a journey that starts with the first **accidental** exposure to the profession followed by the many varied pathways involving **learning on the job**, resulting in a **range of titles** used by the participants. Figure 23 provides a visualisation of this journey. The next theme continues the journey to explore **Being the Professional**.
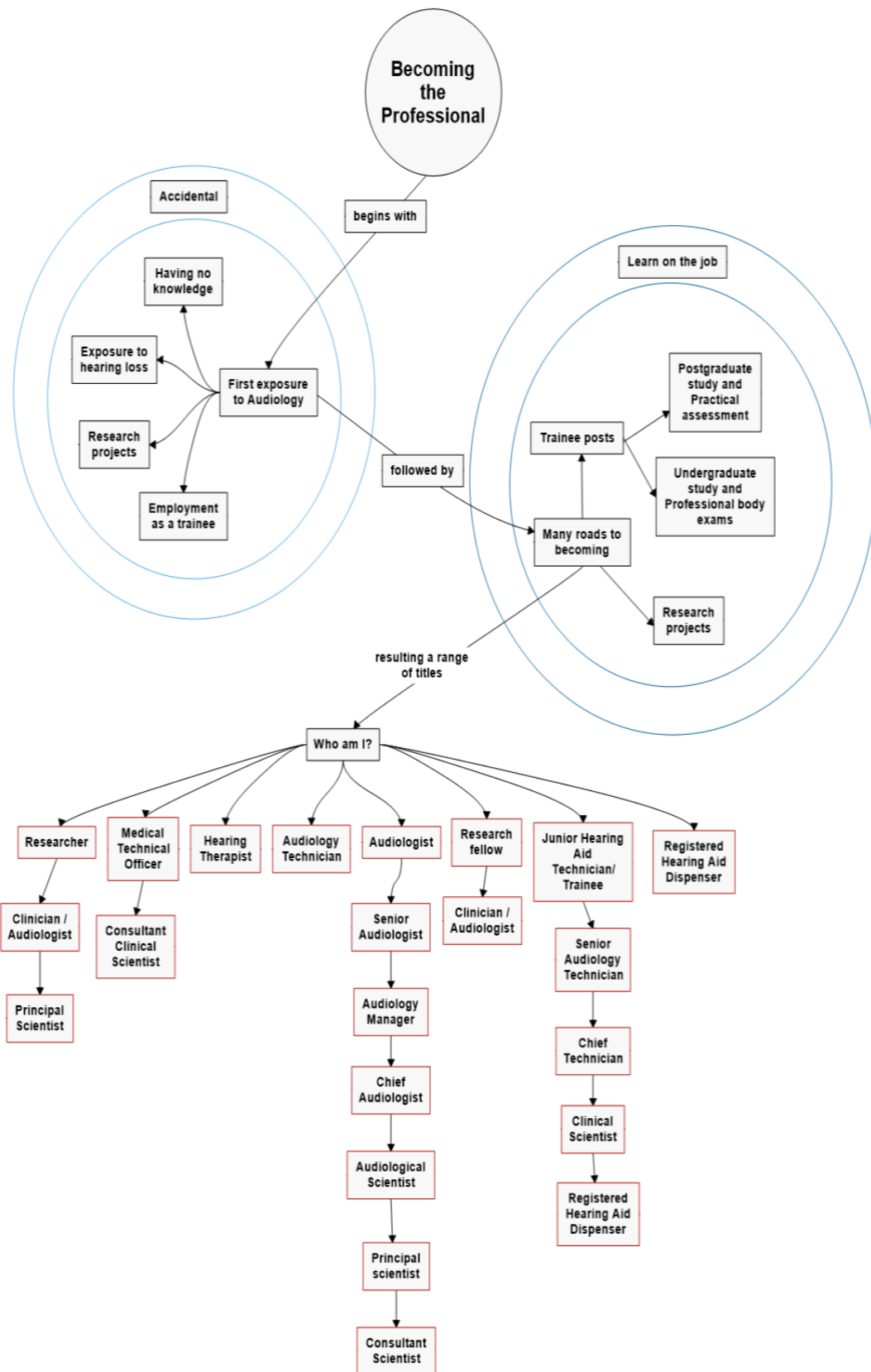
Figure 23 – The journey to becoming the professional

6.4.2 Being the professional

The second theme focuses on **being the professional**. The three categories in this theme are:

   a) **Setting the scene**
   b) **Tribal views**
   c) **Continuing their professional development**

   a) *Setting the scene*

Audiology in the United Kingdom is a fragmented profession consisting of many different titles. This first category sets the scene by identifying the different titles used across the profession. Participant one provided an overview of the different titles and the roles they played over the years. Visually this fragmented profession appears to be like a fibrous root system (figure 24) that keeps growing an extra root to strengthen the overall root system. Unlike a tap root, the fibrous root system has no strong core root to anchor the plant. The profession of audiology, in the United Kingdom in particular, grows another root rather than attempting to strengthen the core root.
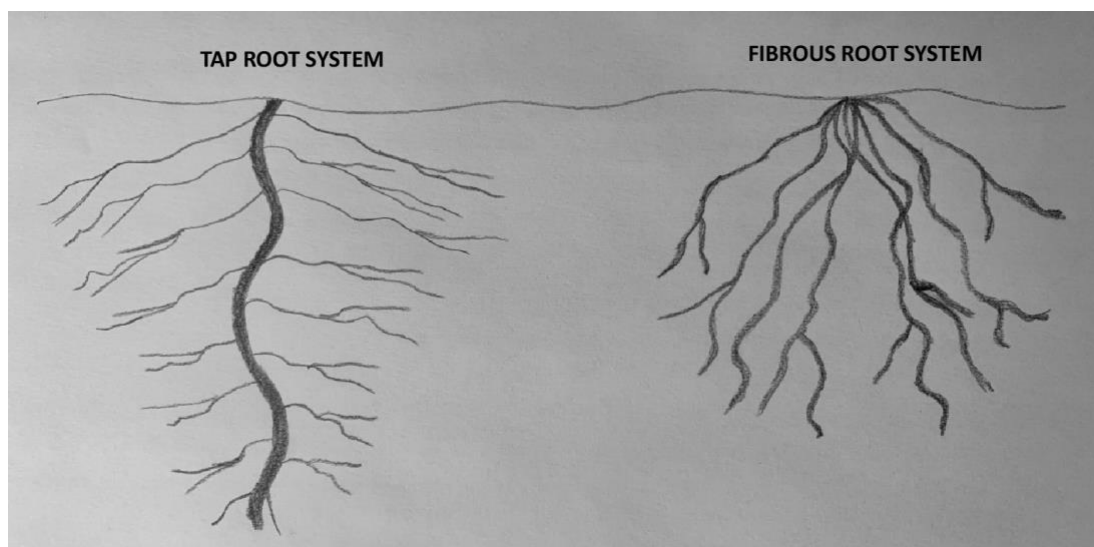
Figure 24 – Plant root systems

Participant one referred to the titles in the interview and provided information about the origins. The first title discussed refers to the researcher turned clinician route which subsequently led to the development of the audiological scientist/clinical scientist title. This group of professionals often worked in paediatric settings.

Participant 1

"That was I think because of the foresight of, actually ███████████ *himself and also an ENT consultant called* ███████████ *who was there in the 1950s and they had set up an audiology unit which was particularly good on paediatrics and also had these funded posts, research posts."*

"Uhm, so then I was on a kind of permanent, I think it was called a principal scientist post."

"And he'd come through that route, physics and a PhD, so people had come through various odd, very often PhD routes, into audiology and provided a small core, of kind of leading ah, graduate, postgraduate uhm, either researchers or it was often the case turned into clinicians."

"I would guess about 1978, where this group of graduate audiologists, now a few who had come in by the back door and a few of the new ones who were training through the new MSc, held a small meeting, probably about 20 people there and decided to call themselves audiological scientists."

As stated below the bulk of adult audiology was delivered by another title, the audiology technician.

Participant 1

"Meanwhile the bulk of audiology, particularly adult audiology, was being delivered by technicians, who, for whom there was an agreed training route."

This division between the two titles were at times linked to patient population (adult and paediatric audiology) but also differentiated between what is considered more advanced procedures, in particular vestibular assessment and auditory evoked potentials, and the more routine hearing assessment and hearing aid fitting in adults. The implementation of this division varied between hospitals and is possibly linked to the great variance in numbers of clinicians, as mentioned below.

Participant 1

"What we had got to by the mid 80s was uhm about 2000 Audiology Technicians represented by the BAAT."

"About I suppose, I don't know, 50 or a 100 something audiological scientists represented by the British Association for Audiological Scientists."

Participants two and four mentioned performing some of the more advanced procedures in their clinical practice as technicians.

Participant 2

"So, from then on did much more. It's a great job for me as well because I had to do all the ABRs, it was a busy place and I had to do all the balance and so I went off to these training courses in order to learn how to do this, because there was nobody there to teach you, so I became kind of self-motivated stuff. So, I was doing tone burst and bone conduction ABRs before anybody set any protocols. I sat with textbooks and learnt how to do it, which is a great grounding, and you know, quite a different me looking back at how I was at the start."

Participant 4

"And I must admit when I got into post the first thing that I had to do was to set up a balance test lab, and then obviously to train the other staff on what to do."

Participants seven and eight both completed the Hearing Aid Council Exam which allowed registration as a Hearing Aid Dispenser, adding a further title to the profession. Interestingly, participant seven was registered as both a Hearing Aid Dispenser and a Clinical Scientist which require two separate registration profiles with the HCPC, despite an overlap in procedures for hearing assessment and rehabilitation in adults.

Participant 7

"I registered as a hearing aid dispenser and a clinical scientist".

Participant 8

"I passed both the examinations first time, so I became a registered hearing aid dispenser with the Hearing Aid Council."

Participant one also refers to the interest in audiology from medical colleagues based on the lack of paediatric services available at that time.

Participant 1

"But there were also, let me just tell you other things that were going on, so also there were a number of physicians who were becoming interested in audiology."

"There a few key people, including my predecessor in ▉▉▉▉▉▉ *, professor* ▉ ▉▉▉▉ *. He was a physician as well as an audiologist so there was this group of physicians who were a bit like the Scandinavians, started to say, listen there is a role for audiological physicians here and they set up their group".*

"…plus, there were doctors, ah school doctors who used to work for the school health service and then that which was, used to be organised by local authorities and then that came under the umbrella of the NHS. Now those school doctors did things like school entry screening tests and various things and because paediatric audiology services were so ill developed, they started to run a sort of community clinics in paediatric audiology. So, they then became ah quite a big group and for a while they were known as the British Association of Community Doctors in Audiology."

In addition to the medical colleagues taking an interest in paediatric hearing care, participant one also mentioned the links to education and the development of the teacher of the deaf and educational audiologist titles.

Participant 1

"So, basically, to put it simply the Teachers of the Deaf started to do paediatric audiology in order to fill the gap that there was because there weren't decent paediatric audiology services around and uhm, I think that led them uh to not only do the kind of assessment but also quite good uhm, school-based audiology which soon began to be known as Educational Audiology…"

"Uhm so ah I think that's how it came about that uhm, there was some fragmented educational audiology, but it was under the umbrella of the Teachers of the Deaf. That's the background to that."

A further development on the side of the audiology technicians was the creation of hearing therapists. Both participants one and three refer to this title.

Participant 1

"... then on top of that as you know hearing therapists were invented".

"Because it was recognised that there wasn't enough concentration on rehabilitation work, particularly on the adult side and so it went on".

Participant 3

"P3: ...because originally, to a certain extent, hearing therapy was driven by frustrated audiologists.

Interviewer: In what sense?

P3: These were people who trained as technicians and began to see that the people side of things was woefully under-represented and that was what actually patients wanted."

Participant three then goes further and mentions the way the management of patients with tinnitus changed with the introduction of the hearing therapy title.

Participant 3

"I suspect before that, before hearing therapists came on the scene, maybe tinnitus patients were largely just within ENT, so you'd see the ENT and they would say, "You haven't got a tumour, there's not much we can do, learn to live with it", now that might be an under-representation of what was going on but I suspect that was the case."

The many titles in use create a confusing context for professionals and prospective students. Participant seven refers to this in the use of the titles hearing aid dispenser and audiologist.

Participant 7

"P7: ...the title of the course for hearing aid audiologists but interestingly enough, you see most adverts, there's no "hearing aid", they are called audiologist.

Interviewer: But that is because audiologist is not a protected title.

P7: Yes. I actually think it's wrong because when they register, I'm not 100% certain about this now, they register as a hearing aid audiologist.

Interviewer: Hearing aid dispenser, that's the protected title.

P7: But they don't call themselves that, they call themselves audiologists which is wrong because they have a different qualification.

Interviewer: I think it's not necessarily even the qualification, it is the scope of practice.

P7: Yes.

Participant one provided a possible reason for the fragmented profession and poses that it goes back to its origins.

Participant 1

"I don't…why audiology has been so fragmented."

"It may be that it is such a broad subject, you know, encompassing in a way that maybe isn't quite the case in other disciplines. You know, going from, you can have counselling, you can have hard physicists, you can have psychoacousticians, you have developmental paediatricians, you know, and so on and so on and maybe it's because of that."

Figure 25 provides a summary of the titles and a visual representation of why the development of the titles resemble a fibrous root system. Reflecting on the interviews and developing an increased understanding of the different pathways, it is as if each title developed because of an identified need; be it limited service, advances in the profession or recognising the needs of the patient. At times this appeared to happen in isolation and not as part of progressing the wider profession.
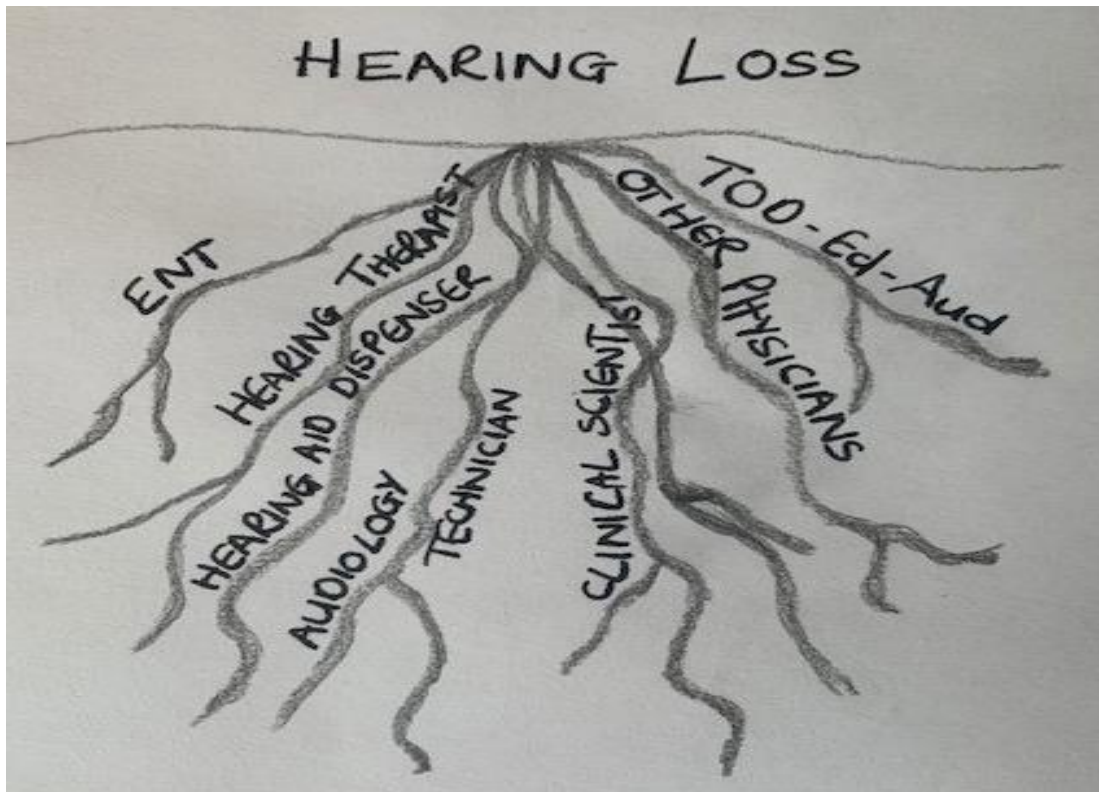
Figure 25 – Illustrated fibrous system with audiology professionals

The different titles linked to different training pathways and scopes of practice, all working with hearing loss, creates a confusing context for the public whose sole reason for interacting with the profession is the experience of having a hearing loss. The titles appear to have created tribes within audiology. Beattie (1995) considered the tribal relationships between the healthcare professions, but audiology appeared to have created tribes within the profession. The next category will explore the relationships between **the tribes**.

Figure 26 provides a visual representation of this theme (**Setting the Scene**).
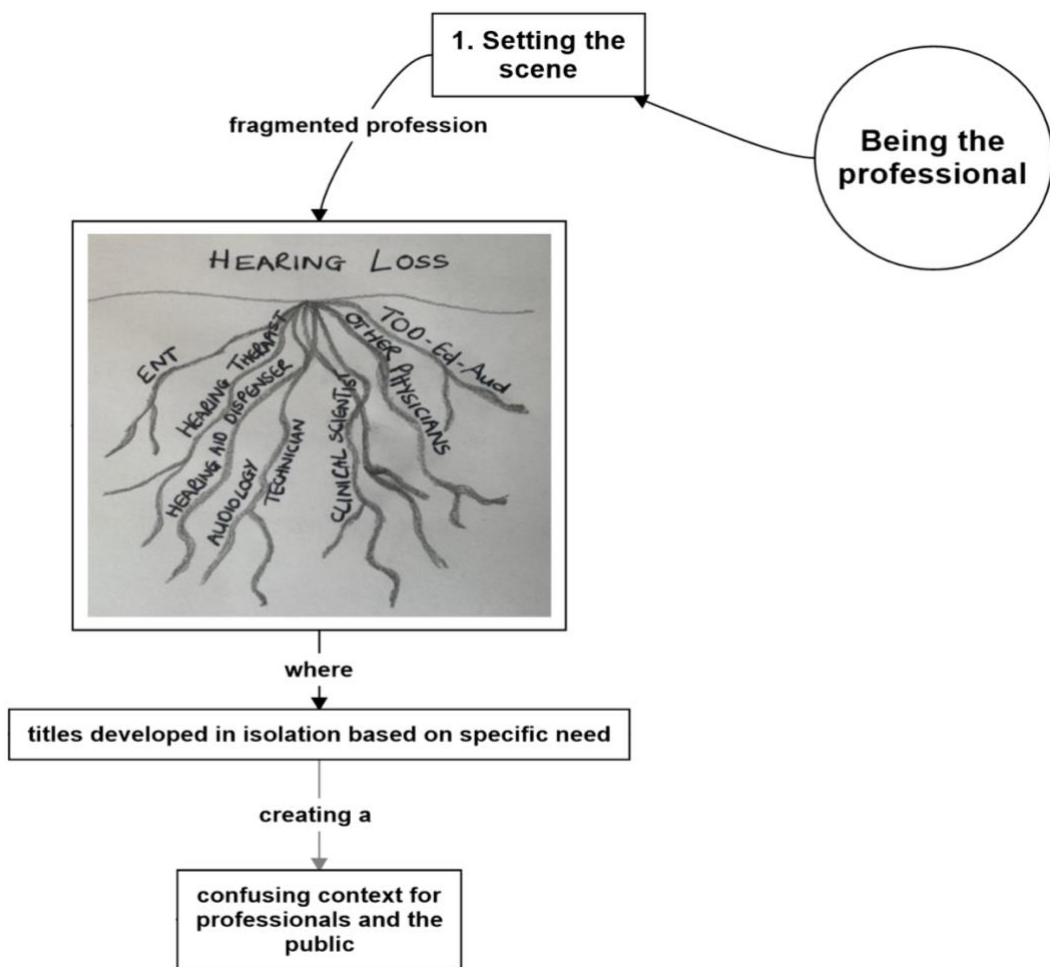
Figure 26 – Setting the Scene

b) Tribal views

The interviews provided a narrative of each participant's experience of being part of one or more of the tribes, as well as their perceptions of the relationships between the tribes. The first step was to identify which tribe(s) each of the participants were a member of. Out of the eight participants, five indicated membership of only one tribe with three participants stating membership to more than one tribe. Table 33 provides a summary of the participants' tribal memberships.

Table 33 – Tribal memberships

Technician	Clinical Scientist	Hearing Aid Dispenser	Hearing Therapist
4	5	2	1

The interviews then explored each participant's awareness of other tribes. Overall, the awareness was limited by the specific pathway taken at the start of each

participant's journey. The chosen pathway may be linked to the information available at the time of joining the profession, as most participants started their journey in the profession as an employed trainee and therefore as a member of one of the tribes. Awareness of the other tribes came along the way for most participants, either through working in the same context or through meetings at various levels of their respective organisations. Participants two, three and four responded to questions about their awareness of clinical scientists in the early years of their careers below.

Participant 2

"*I was never aware of it, so I didn't know, and I didn't understand kind of how these… so describing what I had just describing about ████████ and thinking about ██ degree, and MSc I had no idea of what was what at that age. I only got to understand more of it when I started work with BAA…*"

"*So, at the General, where you went to go and do hearing aids, there were these mysterious people who I know quite well now like ███████████████████ etc. who used to take you know a whole morning to do an ENG and a whole test battery and you just sit and giggle about them because you don't take an hour or 45 minutes to do it and they were mad these people and so certainly as youngsters they came across as a little bit elitist I would say, but also kind of boffins.*"

Participant 3

"*No, I didn't know any, I didn't work with them, I wasn't aware of them until I started getting more involved in the professional body role, when I started to bump into them a bit more.*"

Participant 4

"**Interviewer: Did you have any experience with any clinical scientists at that stage?**
P4: No. Nothing at all."

Participant eight only became aware of another tribe (audiology *technician*) as part of a collaboration between Private and NHS audiology services to shorten waiting lists.

Participant 8

"So, it worked out fine really and the people I dealt with were audiologists, all BAAT qualified then, ..."

Participant six became aware of the different tribes through working as a research fellow and teaching.

Participant 6

"Yes, I was well aware of the technician training programmes, we had audiology technicians working in the department and I knew about their training, we did CPD top-up training pathways and also the audiology technicians, as they were called at the time, were teaching on the Master's programme. So, the two were interconnected quite closely."

The interviews then focused on their perceptions of the relationships between the different tribes while working as an audiology professional. It should be recognised that the division between Ear, Nose and Throat (ENT) consultants and the audiology profession, centre around the difference between medical and non-medical aspects of hearing care. The division is linked to the procedures performed by either profession complement diagnosis and treatment of patients with ear disease and hearing loss. From the interviews it appears that the relationship between ENT and audiology professionals changed over time. Hearing aids were initially prescribed by the ENT consultant in the NHS but with advances in hearing technology over time the prescription of hearing aids was transferred to the audiology professional.

Participant 3

"It was because technicians were very much seen as and still are to a large extent, as the handmaids of ENT, it was very dominated by a medical model, so you saw the ENT consultant who as you know, at that time, also wrote the prescription for a hearing aid and told the technician what to do, so I suspect anyone who turned up in ENT with tinnitus, it didn't cross their minds to refer them to technicians either except when they needed a hearing aid."

Participant 5

"P5: I always got on well with ENT on that group, I felt that they respected us.

Interviewer: Did they see us as equal partners in the relationship, do you think?

P5: Not equal in the sense of they are medics, we're non-medics but they appreciate what we do."

Participant 7

"It is interesting from that point of view, that when you read articles in the paper or as you walk down the street, you do see journalists referring to "Fred Blogs, audiologist", so that is becoming more and more. A lot of it is around, is it Action for Hearing? I read articles about that and it's "so and so audiologist says …", whereas previously it used to be "so and so, ENT consultant says", so when it's more around hearing, the word audiologist has a higher profile than it did 10 years ago, never mind 20.

I always remember, when we went for direct referrals, there was always this concern by the ENT consultants of saying, "but you'll miss something", and they would only let us do so much but over time and demonstrating competency the guidelines were relaxed. However, in the early stages of DR (direct referral) I insisted that if the staff saw a patient who was outside of what the audiologist could undertake, they made a formal referral back to the ENT consultant Soon the consultants were trusting the audiologist decisions and the age range for adults went down to 18 plus…"

However, according to some of the participants the roles of the paediatrician, audiology physician and general practitioner in providing care for patients with hearing loss appears to overlap with that of the audiology profession. At times this overlap caused friction between the professionals because audiology procedures were performed not just by the audiology professional, but also by the paediatrician, audiology physician and general practitioner raising the question of ownership again.

Participant 1

"Now those school doctors did things like school entry screening tests and various things and because paediatric audiology services were so ill developed, they started to run a sort of community clinics in paediatric audiology."

Participant 2

"When I moved down to ▮▮▮▮▮ all the work with children up to ABR level was done by community paediatrician and an educational audiologist who came and did a clinic

in the department and because of traditional enmity between them and our service children didn't get passed on for ABR and they got held on and all sorts of stuff."

Participant 5

"P5: I think initially, there was quite a bit of I want to say resentment but why community paediatric consultants who obviously specialised audiology, why they were involved in the testing, it didn't seem right.

Interviewer: Why would you say that?

P5: They're medical people with a specialist interest but why somebody at that salary should be doing it when there's good audiologists and scientists who can do the actual diagnostic work.

Interviewer: Why do you think the paediatricians felt they… sorry on you go...

P5: It's changed over the years, in ▮▮▮▮▮, when I first went there, a paediatrician did some of the testing with an audiologist but in time, we took on the work and then the paediatrician did all the follow-up after new-born hearing screening and all of the more medical side of things.

Interviewer: Why do you think it happened, that the paediatricians got involved at that time? Why do you think they felt obligated to do a service? Is there anything like that that happened at the time?

P5: I honestly don't know, it just happened. Probably because they were medics, they thought they were the ones to do it."

The creation of tribes resulted in division within the profession and creates a complex environment as aspects of services provided within the profession of audiology can overlap between the tribes, raising the question as to the need for the tribes. Participants presented awareness of the division created between the different tribes, and it is linked to the many pathways available to become an audiology professional and the titles that go with them.

Participant 7

"We always had the MSc in Audiology and the difficulty about that, you had the audiology technician or the audiologist and then you had the clinical scientists and the two were projected to be very different."

The existence of the tribes influenced the relationship between the audiology professionals and there is evidence of elitism and rivalry.

Participant 2

"But other than that when you start to look at places where you could develop or further your career in, or where you might move to, it became clear that there was some, not that many, but that there were smaller centres that was [sic] absolutely dominated by Clinical Scientists and you really had no chance of even being kind of a helper, unless you had gone through that training route. There weren't that many but there were some you just couldn't…"

"So, for some Clinical Scientists, Audiologists who haven't gone that route would never be worth anything and for some audiologists doing the Clinical Scientist were always going to be a complete waste of time. People who trained forever to do something and they weren't any good at it because they'd never seen patients in that pathway. That was the real argument back the other way "yeah fantastic you worked for years and then didn't even see a patient…"

"In ▮▮▮▮▮▮▮, if you were going to do some paediatrics and you got an attachment in that, as part of a BAAT 1s or 2s, you would go and work with the clinical scientist in children's hearing assessment centre who were fine but that was… "This is what we do, and it is important, and you can come and help us by doing it" pretty much like the paediatric assistants' kind of do now."

"What generally people would say is, they would say it because you have people coming through on an attachment and people go "yeah right, I am doing this, and I am going to see this patient today" and plainly not having the experience of somebody who had come up through the system. So, they'd done a one-year MSc where they learned all this stuff where they could absolutely bamboozle everyone in the department about, but they were bloody rubbish when it came to seeing somebody in front of them and they had no skills or practice in doing it. So, it absolutely wasn't an ideal situation."

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Participant 3

"P3: …but clinical scientists were actively hostile and technicians, as they were, were a mixed bunch.

Interviewer: Why, what gave you the idea that the clinical scientists were actively hostile towards the idea?

P3: Our training was pretty ropey academically, so it wasn't the same, well they thought technicians were pretty ropey as well in that nobody got a degree, so they undervalued technicians and they undervalued hearing therapists and they didn't like, they were highly territorial, this is my perception of these things."

Participant 5

"P5: No disrespect to the hearing therapists who perhaps hadn't been audiologists but hearing therapists, a few of them were a little narrow minded, where those people who'd been an audiologist and specialised in hearing therapy, they'd got a much broader experience.

Interviewer: That would make sense.

P5: But whether it's because I was an audiologist, then became scientist, I've always respected audiologists and BAA, that might just be my view."

Participant 6

"… it was aimed to boost the scientific rigour of the whole of the audiology programme because at the time we're talking about, when the MSc programme started in 1972, quite a lot of technicians were working, who hadn't had any formal training, they just learned on the job, hadn't even been to night school or anything like that, to be frank there were some audiologists that didn't know what they were doing and it was recognised there was a need to improve standards overall."

"There was quite a lot of rivalry I would guess, there was a sense amongst audiology technicians that some people were being brought in who would be above them in the scheme of things, would be paid more, who appeared to have quite a short period of training and didn't have their level of clinical experience which they'd picked up over sometimes many years, so that's not unique to audiology or to healthcare professions at all, and we see it everywhere."

Participant 8

"We were referred to as the dark side, we were the people that really was [sic] only interested in taking people's money, well of course we needed to take money, it's a private practice, that does not mean we were not actually providing a very high standard of service in response because otherwise, people wouldn't come to us, we wouldn't have a reputation."

There were positive experiences of the relationships as well and some appeared to improve over time.

Participant 2

"…what I found out later was that there were well-meaning people who understood the reasons for both, involved in both, and there are also people who just weren't interested and would not entertain anything."

Participant 6

"So, there was a period of probably a good 10 or 15 years, where there was a certain amount of animosity, antipathy between the two tribes if you like. But I think as we got to know each other better and particularly when the British Academy of Audiology originally was put together, merging the two professions, things had improved already by then and they continued to improve."

"I think it was all generally quite positive, I think by that time, the people from the various groups, perhaps not so much hearing therapists but certainly audiology technicians, had become so familiar with working with scientists and quite a lot of them had been trained by scientists themselves, so that they'd been interacting a great deal and they could see the common ground very easily."

Participant 8

"So it worked out fine really and the people I dealt with were audiologists, all BAAT qualified then, I think they realised that what we did, even though we were differently qualified, we did as good a job in the independent sector, the private sector, as they did in the hospital based audiology department, so actually there was a lot of mutual respect gained by working with each other and trying to understand each other's difficulties and problems and roles, and maybe practice differences."

"So, it was actually a good experience, they were very good to deal with once they got over their suspicions because what was uppermost in their mind was that NHS patients coming into a private centre for an NHS service were going to get knocked over the head and robbed!"

"So, actually, after a rocky start, working with NHS colleagues was positive, had positive outcomes, definitely and I think I certainly gained an understanding of what it's like to work in an NHS audiology department and their difficulties, in a way that I wouldn't have… I wouldn't have had that opportunity any other way. In the same way, our NHS colleagues understood much more what a well-run, properly run private practice can be like and therefore they viewed that a lot less negatively than they would do at one time."

For some participants the difference between clinical scientist and audiologist/audiology technician focused more on the ability to see the wider context and decision making than on actual audiological procedures and patient population.

Participant 2

"I think in terms of the clinical workload I was doing in Leeds, probably the scope wasn't very different. But what I recognise, is that my skills around decision making, understanding the wider context of what I was doing… I had missed out on some of that training so sort of later on doing the MSc. It gives you some of the part you would have benefitted from earlier on. But in terms of what they got…I got as good a result as good a test or probably better than in some departments because I had free reign to go and learn how to go and do different stuff. I wasn't protocol bound."

Participant 7

"I had this argument many times, that if you took the non-graduate training and the four-year degree that was available prior to PTP undergraduate course and the MSc course, if you looked at the syllabus, they weren't that much different, with similar topics being taught. But it was about the depth of learning and the application of that learning that made the difference."

Attempts to move between tribes where often met with comments about joining the "dark side".

Participant 2

"Well, I have never contemplated doing it. I do know people who did that. In those days they were almost looked on as kind of moving over to the dark side "oh you are going to become one of them?", "Why would you want to do that?", "Well it is the only way I can get on..." The only reason I am doing this is not because I think I am going to get any extra knowledge from going away and doing the MSc, but it is because I can see that my best chances of promotion would be by doing it, or heads of department doing it because they think they are going to get undermined by staff because they haven't got what some other people coming through got. That's what motivated some people."

Joining other tribes did appear to have an interesting result as one participant mentioned. There is the perception that gaining a title provides recognition by the specific tribe and not having the title has the potential to influence how a contribution is received.

Participant 2

"It certainly helped enormously subsequently, there are times when inside you are going "oh my god, I would never have said I would do this years ago" but just by saying "well I have been assessed and I am a consultant clinical scientist" makes people listen to you more than if you are going "I am a head of audiology" sadly…"

Participant seven stated that the tribalism has moved from clinical practice, and it now sits within the education system. This shift is observed in the impact of the introduction of new education pathways and how they are viewed by different generations already working in the profession.

Participant 7

"… that tribalism now sits within the education or the academic system."

"… the people that came through the traditional way and are in their more mature years, don't like the new way of learning, of graduates coming in and as a result… what am I trying to say here that… I won't say they dislike it but when the old school has gone and left, the new ones won't know any different so in other words, that change has yet to happen."

Figure 27 provides a visual representation of this category (**Tribal views**). The next category explores the movement between the tribes by considering the motivations for further study and personal development.
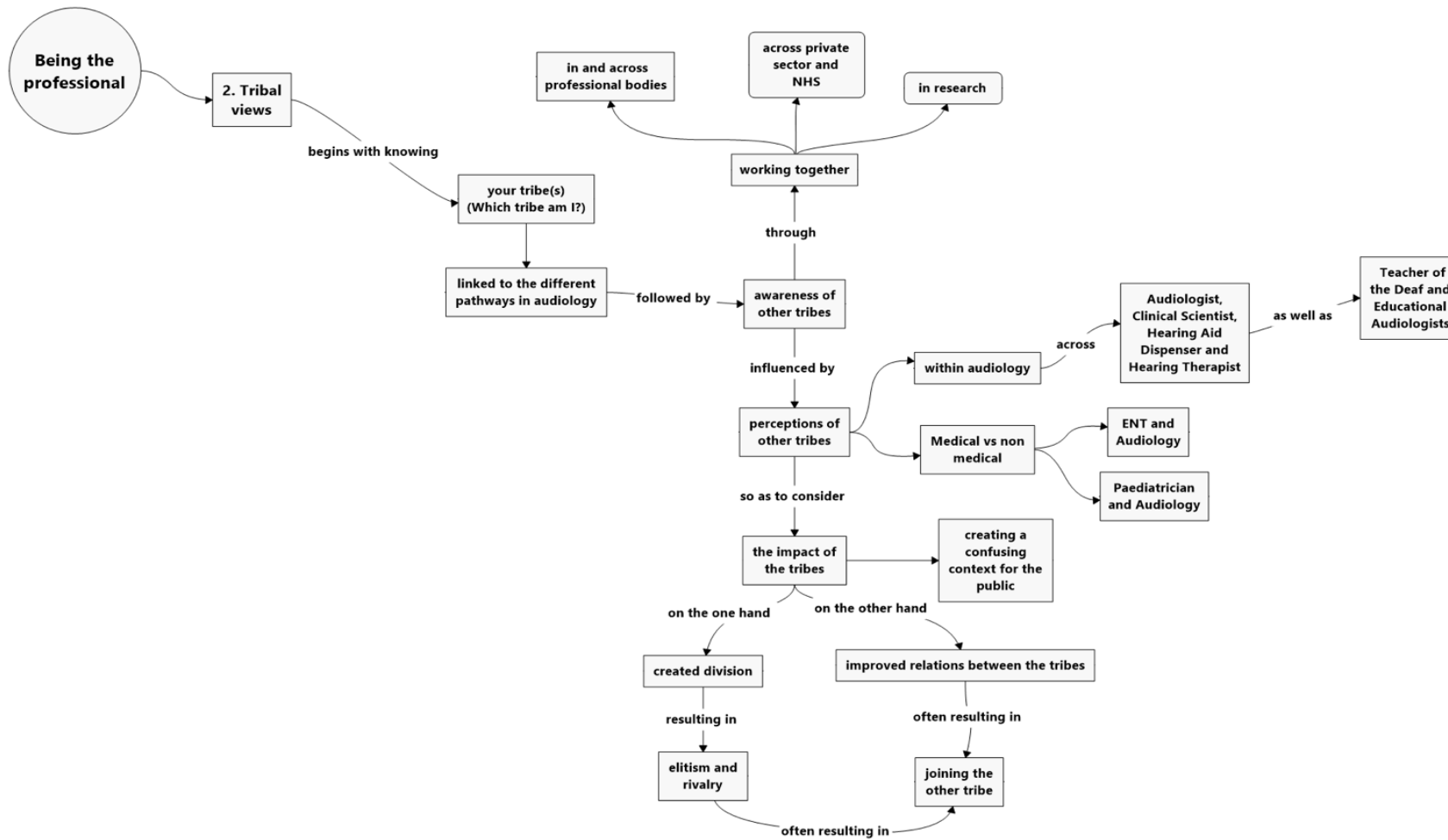
Figure 27 – Tribal views

c) Continuing their professional development:

The participants all shared personal development as a common thread and this category captures the reasons and the motivation for continuing their professional development. The choices ranged from courses in teaching, management as well as health sciences. For some participants it resulted in joining another tribe. Figure 28 provides a visual overview of the participant's motivators for continuing their professional development.
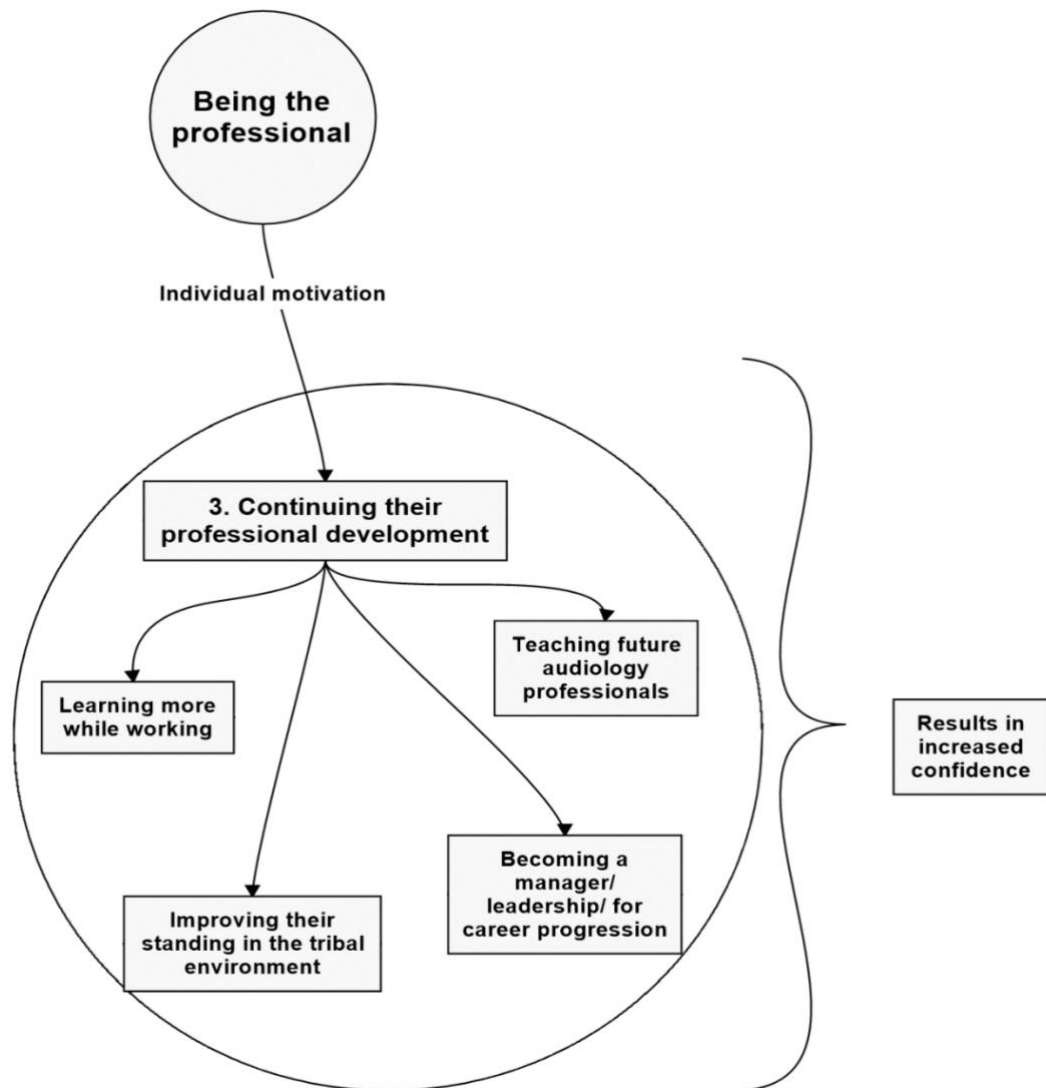
Figure 28 – Motivation for continuing their professional development

Learning more while working

Participants one and two describe using their employment to learn more about the audiological procedures and the motivation appears to stem from a desire to understand more and improve their skill set.

Participant 1

"I sat in with people, I taught myself how to do things, I went away and sat with others and I did a couple of visits, there was one particular useful one, I went over to work with ██████ in ███████ and ah briefly, ████████ in ████████, for about 3 months and uhm by that time I kind of knew what I didn't know so I was able to really cram in a lot of more advanced stuff."

Participant 2

"So, suddenly got switched on to learning new stuff, taking an active part in my future really, rather than just drifting, yeah. So, from then on did much more. It's a great job for me as well because I had to do all the ABRs, it was a busy place and I had to do all the balance and so I went off to these training courses in order to learn how to do this, because there was nobody there to teach you, so I became kind of self-motivated stuff. So, I was doing tone burst and bone conduction ABRs before anybody set any protocols. I sat with textbooks and learnt how to do it, which is a great grounding, and you know, quite a different me looking back at how I was at the start."

<u>Teaching future audiology professionals</u>

Of the eight participants, six mentioned the provision of training in some form to students whether this was as part of their clinical work or for some as part of teaching (their words) on the many audiological training pathways. This added role motivated participants two, three, four and seven to complete a further qualification in education. Participant five completed teacher training before joining audiology and participant seven listed it as part of their qualifications. The motivation for continuing their professional development was to understand how to educate future audiologists.

Participant 2

"Long story short, that's where I went, moved up there and a part of that role was looking after and teaching, and I got 3 students…"

Participant 3

*"**Interviewer: …you went onto do the PG Cert, is that in Education?**
P3: Yes, it's the standard teaching and learning course.
Interviewer: So why did you do that?
P3: The university required us to do it."*

Participant 4

"One of the things that I was particularly lacking in is teaching, and I went on to undertake a teaching certificate, City and Guilds 7307. That was undertaken at, as was then, the ███████████████*, I think it's* ███████████ *now."*

"The reason why I did that was because obviously I was teaching students not only practically but also theoretically as well. I'd never even stood up and taught anything in my life in front of kids and I'm thinking, 'Oh my gosh'. It was a daunting thought. It's how to prepare a lecture, make it interesting, but also to portray the actual content and whatever. This is the reason why I did that."

Participant eight developed the skills by providing work-based training and managing courses.

Participant 8

"I actually ceased practising on a regular basis and then took on the role of training director, so lots of responsibility, lots of services were under me, as well as all the company's training programmes…"

Becoming a manager/ leadership / for career progression

Participants also referred to completing courses in Leadership and Management as well as MSc and BSc courses in Health Studies or similar. The motivation for these choices ranges from being promoted to managerial positions, improved pay scales, topping up of qualifications or just to be able to better articulate their views.

Participant 2

"I, well as to the reason I did it, it was after I moved down here and as with other aspects of careers and nearing, I think... kind of I think how audiology was despite being…still got this a bit actually... despite being deputy head in █████*. I had some experience… I had as much experience as I wanted to of all the higher-level clinical stuff we have been talking about, but when it came to learning about managerial stuff or how to lead a department or the strategy involved in working within a hospital, you had no clue whatsoever and you weren't given experience."*

Participant 4

"Now Whitley Council introduced a clause that obviously if you wanted to become an audiology technician you needed to have a minimum of a BTEC National Certificate in Medical Physics, a Physiological Measurement.

When I trained there were five of us including me. Obviously, what we needed to is… we needed to all go through the BTEC National Certificate in order to become, how can I say, qualified, or to kind of satisfy Whitley Council rules and regulations. I think there were two of us that were sent initially, that was myself and also another lady, then the other three went afterwards. So, they staggered the actual intake of the National Certificate. They got around it in some way, shape or form, but obviously we needed to do this."

"Yes. As soon as I finished the BTEC I then went on to do my Higher National Certificate, and again that was somewhat more in depth."

Participant 5

"Now after I'd got my MSc and I was managing the department at ▮▮▮▮, obviously I got further staff below me and built the department up and I went along the route of doing the, have you heard of the IHSM? The Institute of Health Service Management?"

"I did a certificate in Management, it was linked with the Open University as well, so I got a certificate in Management. Oh no sorry, then I did a certificate in Managing Health Services which was an OU IHSM qualification and then I did a postgraduate diploma at ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮."

Improve their standing in the tribal environment

The motivation to continue their professional development presented an interesting twist in that participants reported that gaining further qualifications were linked to interactions between the tribes. Participants felt that they needed to gain higher qualifications, some completed MSc in Audiology courses despite being already qualified in the profession through other pathways.

Participant 2

"I did it after… again it came about through the work we started doing with BAA and encountering people who were on the BAAS side of things and had gone through that route and being sat around the table with them, you kind of compare yourself with them in terms of, not just career but also ability to talk in the way they were talking at meetings. Applying for it was no more or less, Lizanne, than trying to push an argument further if you like. If you are saying that there can never be merging of the two, because there isn't any equality even at higher levels then I am gonna [sic] challenge that by pushing it through your own system and me and [unclear] did it."

Participant 3

"I was the only person I think in audiology that ever done it [sic]. It enabled me then to have conversations with people, to open up ways of exploring the wider world of healthcare and rehabilitation."

"By then I was beginning to develop the language because I was doing the Master's, I was having these conversations, I was reading more widely".

Participant 7

"But that was because the Institute was there and it was about respect, I knew that all these people out there would… because we had a clinical out-station with us and they were all graduates and there I was, a technician, so my motivation was if I want to stay where I am, I'm going to go and do an MSc."

"Yes, because bearing in mind there were three heads of department in ▮▮▮▮▮▮▮ ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮ and myself but I was the technician and although I always held my own corner and they didn't undervalue me, I thought "I need to go and do this". I think it's because I always wanted to be an achiever, I always remember them saying to me in ▮▮▮▮▮▮▮▮ when I got there, "Could you go easy on the lecturers?" and the lecturers had been told, "You do realise ▮▮▮▮▮▮▮▮▮▮ coming next year?" "I'm thinking, "hang on a minute, I'm there to learn" and I did learn, there's no question of that but I learned the academic system, I learned more than audiology."

<u>Benefit of continuing their professional development</u>

Gaining further qualifications improved their standing in the profession and increased their confidence, especially in terms of being able to participate in the wider profession.

Participant 2

"But what I recognise, is that my skills around decision making, understanding the wider context of what I was doing… I had missed out on some of that training so sort of later on doing the MSc. It gives you some of the part you would have benefitted from earlier on".

Participant 3

*"**Interviewer: I think just looking in terms of your own career, you then went onto do an MSc in Health Studies in 2004, what motivated you to do that?***

P3: Severe frustration!

Interviewer: In what sense?

P3: I got really fed up with people saying, " ▮▮▮▮▮▮ *got plenty of time to talk to these patients and we haven't, and I wanted to be able to explain to them what I was doing with them, and I didn't have any language to do it, also I knew that in the wider world, there was research about rehabilitation and I thought, "Why aren't we looking at this? Why aren't we using this to inform what we're doing?"."*

"And I was involved because I was the chair ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮ *and again, part of me doing a master's was my severe frustration at not being able to express, articulate what we were doing to other people through these, involving these processes."*

Participant 4

"I think what the BSc provided was to look at things very differently, to look at things evidence based more than anything else. This was kind of what I'd been doing prior to this."

Participant 7

"It was very much that the writing was on the wall, even though I was head of department, that if I was going to want to progress, I had to do an MSc because that's

*the way it was being driven. Bearing in mind I did my MSc when I was in ▇▇▇▇▇▇,
not when I was in ▇▇▇▇▇▇, no that's not true, I put my name down to do my MSc
when I was in ▇▇▇▇▇▇ and then left because the ▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇
▇▇▇▇▇▇▇▇▇ and I wanted to work there, and when I got there, I got the head
of department post and then applied to go and do the MSc."*

Participant seven mentioned that gaining higher qualifications also provided an
opportunity to learn more about academia as well.

Participant 7
*"But yes, I learned about the academic world and how to function in it. The interesting
thing was, bearing in mind that I'd been to ▇▇▇▇▇▇ University, I'd been to
▇▇▇▇▇▇▇▇▇▇ University but they were different courses, they weren't high
academic courses, they'd hate me for saying that but … yeah, it influenced me
because you're quite right, in later years, I'd learned or it taught me, I'm not quite sure
how to express that but there were different levels of learning and that although,
because I had this argument many times, that if you took the non-graduate training
and the Four year degree that was available prior to PTP undergraduate course and
the MSc course, if you looked at the syllabus, they weren't that much different, with
similar topics being taught. But it was about the depth of learning and the application
of that learning that made the difference."*

It may be of interest to note that participant eight's development took a different path
in that it progressed in terms of developing and managing several businesses.

d) Summary

The theme, **being the professional,** provides insight into the experience of the
participants while working in this fragmented profession. It begins with an overview of
the various tribes involved in audiological care (***setting the scene***) and then
considers how the tribal members view other tribes (***tribal views***). The next category
(***continuing their professional development***) provides insight into the reasons
expressed by participants for further training and education, often resulting in joining
other tribes in the profession. Figure 29 provides a summary of this theme.
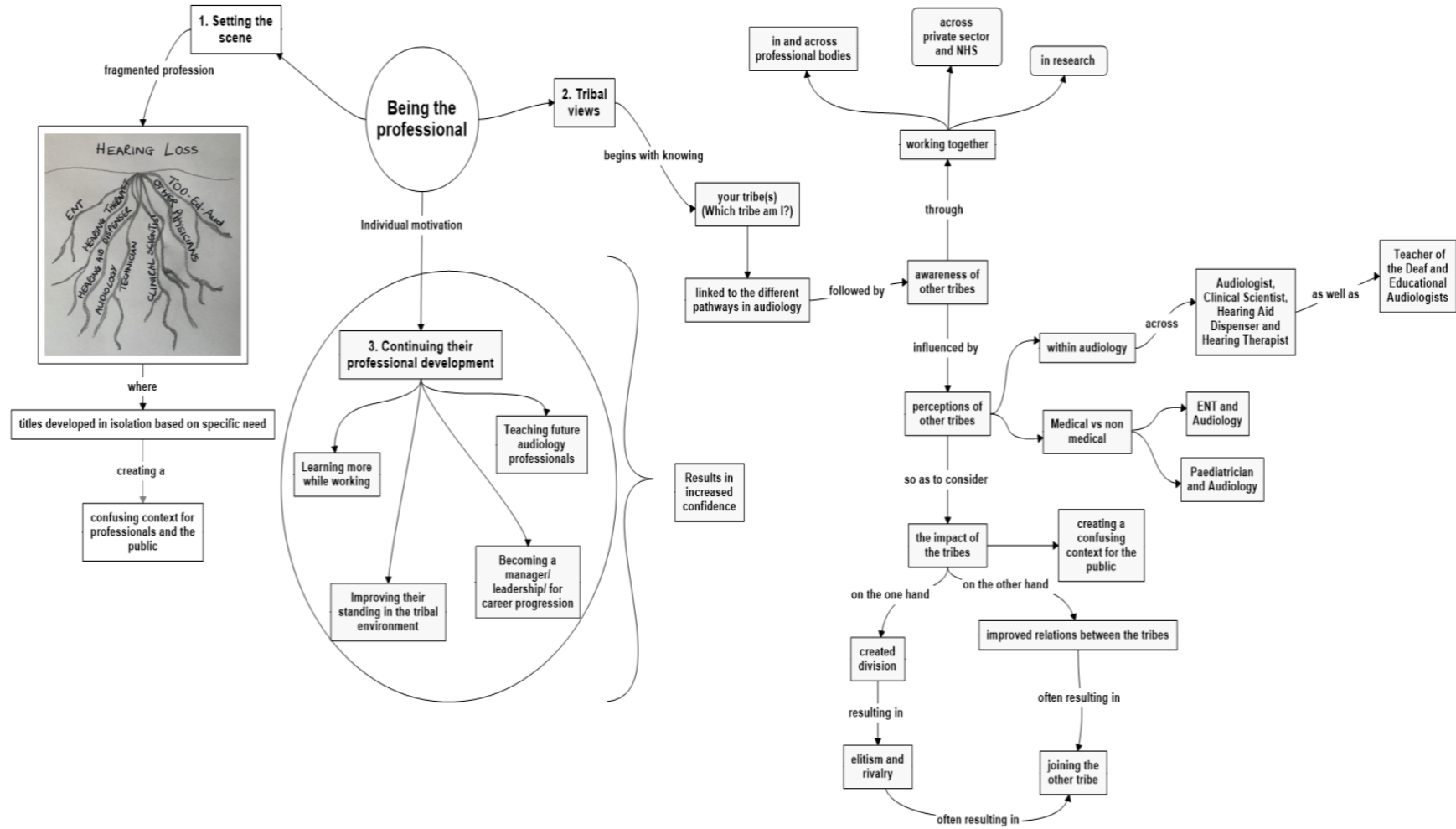
Figure 29 – Being the professional

It may be possible that the audiology profession's fibrous root system dilutes the professional voice and perpetuates the fragmented nature of the profession. The next theme explores the concept of professional voice by considering the various *influences* **on the profession**.

6.4.3 Influences on the profession

The third theme is **influences on the profession**. The three categories in this theme are:

a) **The individual**
b) **The tribes**
c) **The employer**

a) *The individual*

This category focuses on the influence of *the individual* on the profession. Participants referred to the influence of certain individuals, often by name, when discussing certain events or changes in the profession. Some participants also referred to themselves as influencing direction of movement. Figure 30 provides a visual representation of the *Influence of the **individual** on the profession*.
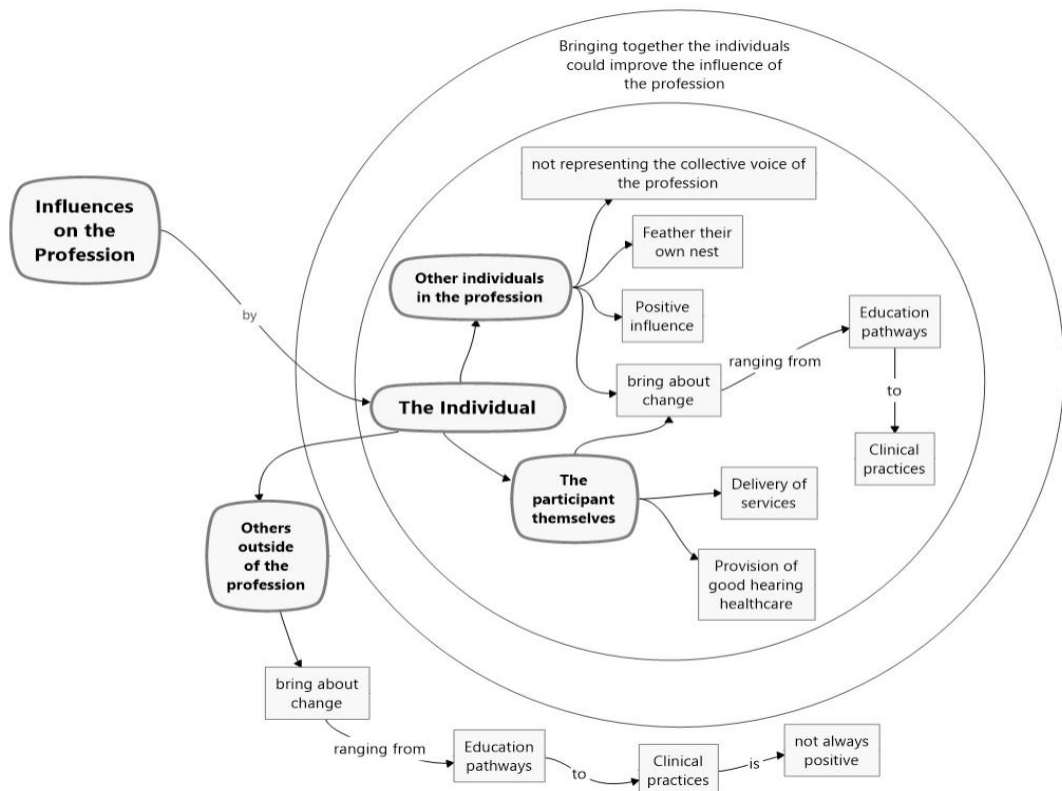
Figure 30 – Influence of *the individual* on the profession

Three of the participants made references to the impact of the individual in the sense that they felt a specific individual or group of individuals within the profession were not providing a representative voice for the collective but often a personal one. Participant one did not believe that those at the top of the profession carry the necessary weight.

Participant 1

"…sadly, the people who were presidents of the BAA have not always been the sort of people who can carry weight at the top level, you know, up against, senior civil servants and others, …"

Participant 3

"It's not a consultative or if it is, it's with a very small group of people at the top of the profession." (In reference to how the employer interacts with the profession)

"P3: I don't know that we're necessarily, I don't know if we're at the top table, I don't know if we're engaging in high level conversations. Now, again part of her idea with Modernising Scientific Careers is that you would create people who would sit in conversations, but I don't know that that's actually happening for healthcare science as a whole, let alone the …

Interviewer: Or it might be happening for healthcare science but it's maybe the person who's not that aware of the rest of the professions in healthcare science?

P3: Or again is not liaising with their constituency so I think the thing about the academy (AHCS) for example, is not particularly functional, again you've got a small clique of people involved in the academy who don't actually do the job properly, which is actually representing the profession and feeding back to the profession and thinking of…

Interviewer: It's a very personal viewpoint, the person who sits there, it's their personal viewpoint of what it should look like, not their consultative viewpoint.

P3: Which again I think should be not them as an individual saying what they think but they should be speaking with a representative voice and a feeding up and feeding down of that information. They should be really embedded in the profession and the professional bodies, so they know, …"

Participant four refers to the individual's motivation to progress (*feathering their own nest*), being a factor in getting involved.

Participant 4

"Yeah, I think in the past we've… with regards to ████, there has been some leaders which in my opinion where kind of there to, pardon the expression, feather their own nests. You know to be the chair for kudos, not for the benefit of the profession."

There are also references to individuals inside the profession and their ability to influence change, ranging from education pathways to clinical practice.

Participant 1

"…there were a couple of people, ████████ in ████████ and ████████ in ████████ who realised that you couldn't build the future of audiological services with non-graduate technicians, you needed to have graduates and that this back door route wasn't, you know, wasn't a great foundation for the future."

Participant 2

"So, I wrote to him and said, "Yeah, I read your paper, that's really interesting and audiology is a very odd kind of thing. There are all sorts of people training in different ways. It would be good to standardise on something, could we meet?", and he said, "yep ok". So, off I went to Skipton House [Department of Health] for the first time ever and met with this bigwig and we had a good natter and he said, "right, let's see who we could get together" and I said, "well it might be a bit difficult in BAAS" and he said, "I am not saying that, pick your conspirators now, who do you know who might be worth talking to?""

"So, he went to a ████ conference in ████ and I stood up and asked lots of awkward questions, got some very awkward questions and told the committee, because I was invited to go to them, that they were doing everything wrong and that until they started to work towards a degree and talk to other people they were always gonna [sic] have a smaller voice than audiology should have, because it was split three ways."

Participant 5

"I think it was likeminded people. I can remember ▮▮▮▮▮▮▮▮▮▮▮▮▮▮ *coming to Leeds with another female, but I can't remember their name and we kind of got, perhaps "instigate" is not right but certainly in* ▮▮▮▮▮ *region it was but I didn't hold any posts, I don't think I held any positions apart from being the lead person in* ▮▮▮▮▮." (Reference to setting up a local chapter for one of the organisations).

"Well, I tried and tried personally with ▮▮▮▮*, who I knew before she became* ▮▮ ▮▮▮▮▮▮▮▮▮ *because there used to be a group called the Conference of Clinical Scientists and I used to be the BAAS rep etc. I personally tried to get rid of it all and just have one body, …"*

Participant 6

"I was also aware that ▮▮▮▮▮*, who died recently as you know, he was in negotiations with the Department of Health, was instrumental in having the Department of Health accept the clinical scientist or audiological scientist as a name for the profession within the NHS in the UK."*

"… so, I was very much involved with working together with the NHS locally to ▮▮▮▮▮▮ *because the bids for those programmes has come jointly from the healthcare providers and universities, and also, I was involved I had quite a lot of interaction directly with the Department of Health over doing that."*

Participant two referred to the individual that positively influenced their decision to choose audiology, as a clinician who took an interest and provided learning opportunities.

Participant 2

"…and that was the first time I met ▮▮▮▮▮▮▮ *and he did really good stuff with supernumerary students. He got you doing audiograms, got you talking to patients, got you doing something that was really useful, and I absolutely loved it. I didn't like the hearing aid stuff so much when I had to go to the* ▮▮▮▮ *to do it, but really flourished from someone to take an interest in me and giving me the opportunity to do something meaningful."*

Clinicians in the private sector have the option to be independent and start up their own business, therefore influencing the delivery of services.

Participant 8

"So, I thought, right "What do I do best?", I said when I was a practising hearing aid dispenser, I was very successful, "I'll set up my own practice", …"

The same participant also mentions the role of the individual in providing good hearing healthcare.

Participant 8

"…so, if you try to short change somebody, mislead them in some way, not give them the feeling that they are important and their needs are important and you're there to serve their needs, then they've always got somewhere else they can go and a good reputation needs to be sustained by keeping a high standard of service. It's a lot less to do with the technology because yes, it's a fundamental difference between NHS and private services but actually it doesn't come down to that, it's down to the non-technological aspects of practice, that's where it makes a difference."

There was also mention of individuals who are outside of the profession and their influence.

Participant 1

"I think as well, I think there have been a couple of, here's where it gets personal, I think a couple of key players."
"So, I think you know, the influence of ▮▮▮▮▮, who is a physiologist in background, and not particularly sympathetic to, at least in the early days I think, to uhm audiology's position as being something a bit different and uhm ▮▮▮▮▮▮▮, ah who is a great ally of hers. I think ▮▮ influence with ▮▮ have been quite considerable in, uhm, in essentially uhm not paying too much attention to the profession or the professional voice which is any case was somewhat uh divided."

Participant 7

"… because the biggest mistake, when the first degree was introduced which was four years and you went on placement for a year, and then you came back and did

your final year, when that was stopped by ███████████ *and became a three year degree and you only had the small attachments, was a disaster."*

Participant eight talked about the role of the individual in changing perceptions within the profession for the better.

Participant 8

"So it is the case if placements are all in NHS audiology departments, then they will only have the experience which informs their future career choice, they also hear stories and they can't really make up their own minds because they don't have any experience of the independent sector, which I think is a great shame, because I know a lot of organisations in the independent sector would be very happy to cooperate with an education provider, to give work experience for students, to give them a different experience from a hospital department and I think it would be good because more and more graduates are working in the independent sector than ever before."

Participant eight voiced an aspiration of bringing **the individuals** from **the tribes** together to improve the influence of the profession at a higher level.

Participant 8

"Therefore I think a lot of people can see that there are areas of similarity that if we got together and formed arguments which represent the arguments of a very large number of professionals who are working together, then I think the ability to influence policy at a high level, influence funding, all of these things become much more possible if you work together rather than separately."

The Individual is part of a tribe, sometimes more than one, and **the tribe** can shape the views of **the individual**. The next category will consider the influence of **the tribes** on the profession.

b) The tribes

This category focuses on the influence of the different **tribes** on the profession and refers to the different professional bodies. It expands on the influence of the individual and places it within the context of the professional bodies and their origins. Figure 31 provides an overview of the influence of **the tribes** on the profession.
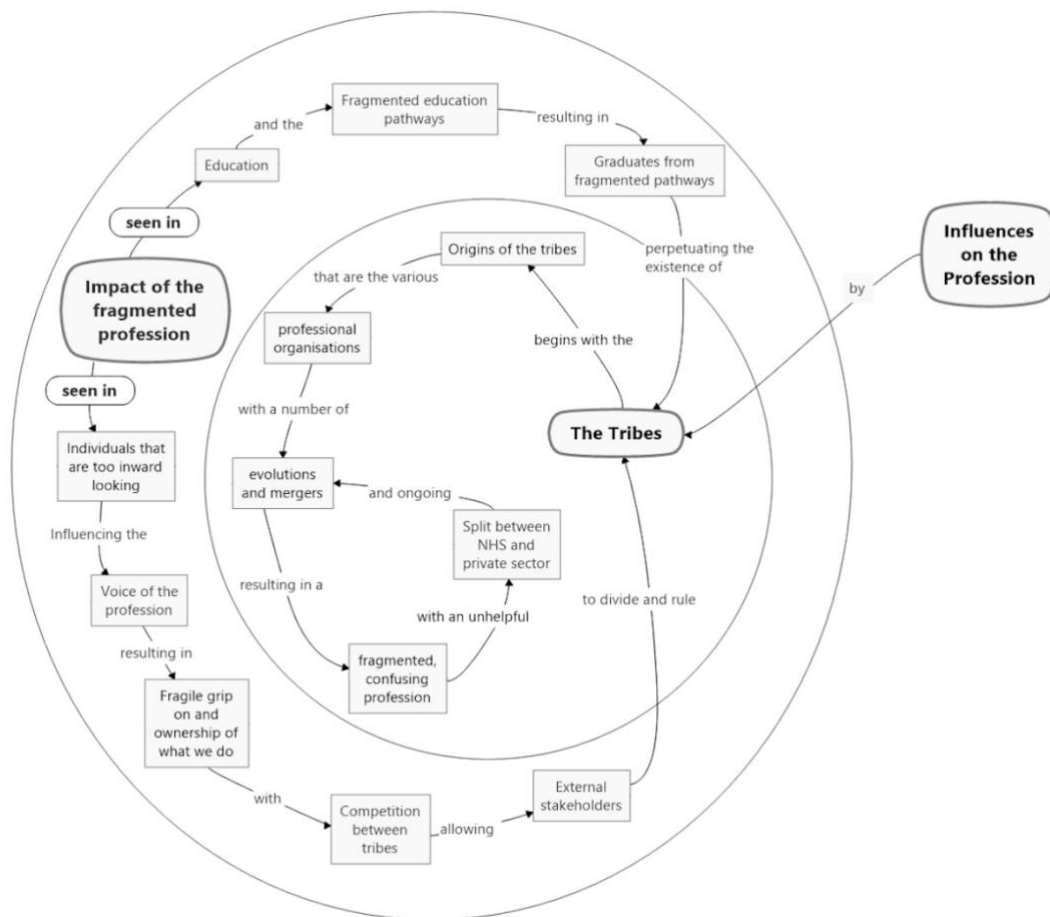
Figure 31 – Influence of The Tribes on the Profession

Participants one and seven provided an overview in their interviews of the different professional bodies, explaining some of the context within which the influence of **the tribes** on the profession should be viewed.

Participant 1

*"I remember being at the meeting and I argued against it at the meeting, I thought it was a stupid idea. Because it implied somehow that there was something that could be an audiologist that wasn't a scientist ah but anyhow, they went ahead and chose that name and that then led to them then setting up the **British Association of Audiological Scientists (**BAAS**).*"

"But that meant that you had a group of a…, you had a professional body that was looking after these, ah, first this small number of graduate audiologists, uhm and you

*had uhm, quite separately from that the **British Association of Audiological Technicians (**BAAT*)* had created themselves, I think probably in the 1950s."*

*"What we had got to by the mid 80s was uhm about 2000 audiology technicians represented by the **BAAT**."*

*"About I suppose, I don't know, 50 or a 100 something audiological scientists represented by the **British Association for Audiological Scientists** uhm".*

*"But there were also, let me just tell you other things that were going on, so also there were a number of physicians who were becoming interested in audiology. I'm less clear about the detailed history about how the **British Association of Audiological Physicians** came about. There a few key people, including my predecessor in* ▮▮▮▮▮▮▮▮, *Professor* ▮▮▮▮▮▮▮. *He was a physician as well as an audiologist so there was this group of physicians who were a bit like the Scandinavians, started to say, listen there is a role for audiological physicians here and they set up their group…"*

*"…plus, there were doctors, ah school doctors who used to work for the school health service and then that which was, used to be organised by local authorities and then that came under the umbrella of the NHS. Now those school doctors did things like school entry screening tests and various things and because paediatric audiology services were so ill developed, they started to run a sort of community clinics in paediatric audiology. So, they then became ah quite a big group and for a while they were known as the **British Association of Community Doctors in Audiology**. Uhm and of course all of these different groups… then of course you got **ENT** people as well".*

*"Uhm and the other thing is that there was nevertheless a reasonably thriving private sector for adult hearing aids and so you got the **British Society of Hearing Aid Audiologists (BSHAA)** as it was then, for private dispensers and that was another kind of complication and no one, no one really brought it together."*

*"… there is also the **British Society of Audiology (BSA)**, which is a sort of umbrella organisation."*

Participant 7

*"The professional society in audiology was **The Society of Audiologists & Therapists (SAT)**. I joined in '63, became active in audiology probably when I got into the 1970s but I remember that the society had been going since about 1951/ 52 and most people who worked in audiology, at that time, went to do the Royal National followed by nine months practical, after completion you went and did your practical part 2."*

*"The **Society of Audiologists & Therapists** was absorbed into BSA and became the **Audiology Technicians Group (ATG)**, when I really started to get involved in the audiology technicians' group."*

The fibrous root system (figure 25) depicting the individual audiology professionals can now be further expanded to represent the organisations involved in providing audiological care (figure 32) before the British Academy of Audiology (BAA) was created.
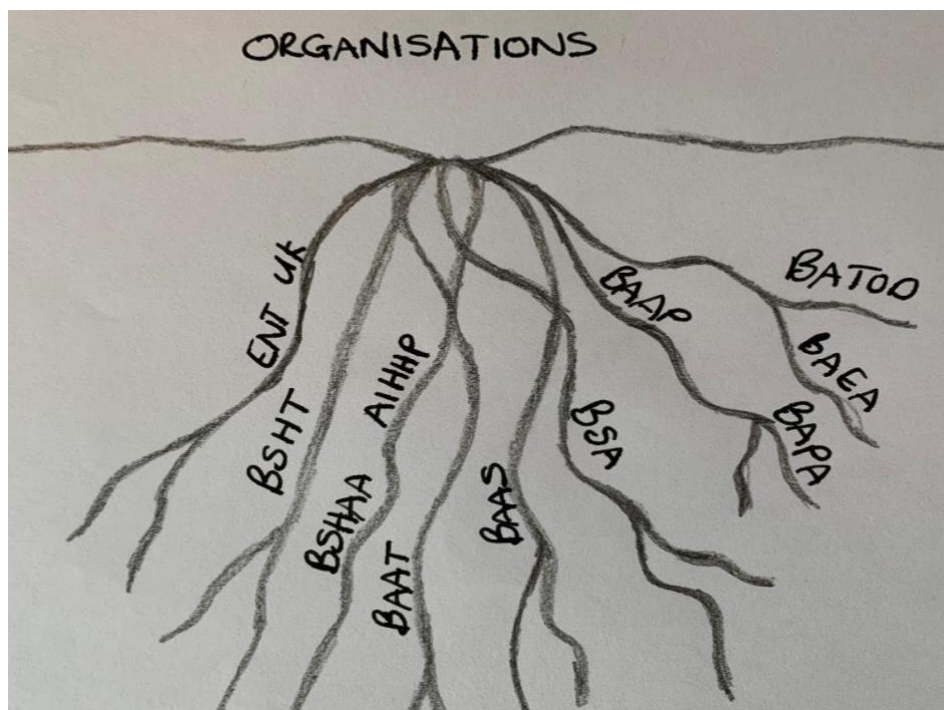
Figure 32 – Illustrated fibrous system with audiological organisations
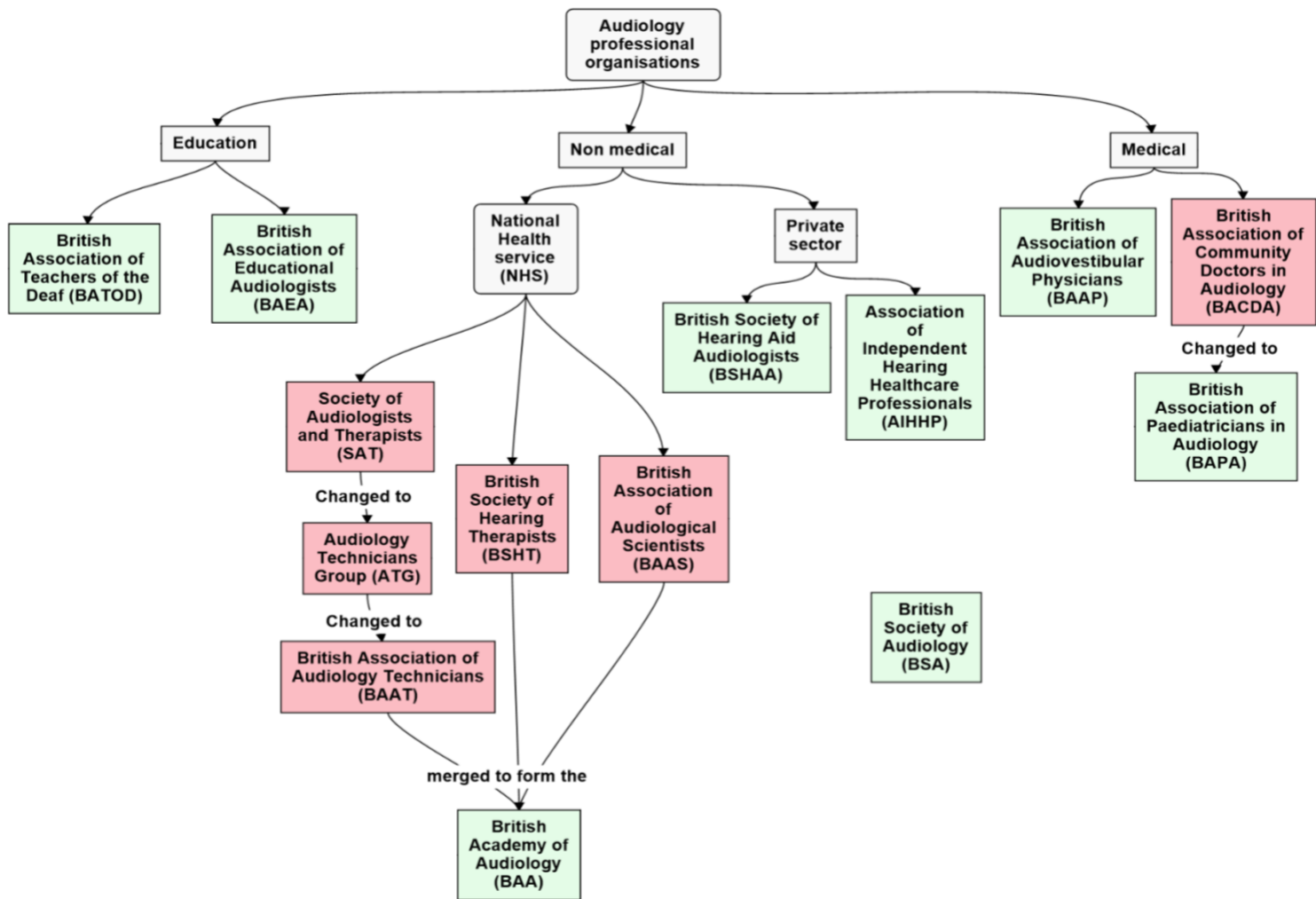
Figure 33 – Summary of audiology professional organisations in the UK

Figure 33 provides a summary of the audiology professional organisations in the United Kingdom and evidences the evolving nature of the organisations. The blocks in red refer to organisations that no longer exist and the green blocks are the organisations as they are currently. Over the years there have been attempts to bring together the non-medical organisations but the divide between private sector and the NHS remains. The British Society of Audiology is a multidisciplinary organisation, and its membership includes "…researchers in hearing and auditory science, educational professionals, and medical professionals such as Ear, Nose, and Throat doctors and Clinical Audiology staff, including Audiologists, Clinical Scientist, Hearing Therapists & the public. Members are from private, statutory, and voluntary sectors, nationally and internationally." (BSA, 2022).

All the participants were involved in the various organisations mentioned and some were part of the discussions around the merger to create the British Academy of Audiology (BAA). This merger required meetings between members of three of **the tribes** and focused mostly on the audiology professionals working in the NHS, namely audiology technician, hearing therapist and clinical scientist.

Participant 1
"Yeah, let's just say where we got to around the time of 2000 was that we still had, we've combined the Audiology Technician Association with the British Association of Audiological Scientists and formed the British Academy of Audiology, so that was a step in the right direction."

"In terms of personnel we still had, at least on the non-medical side, we still had the medics going on and on the non-medical side we had audiological scientists and audiology technicians and uhm some of us started arguing for the need for a degree to get rid of the technicians and to make it all degree level. In line with other health sciences or Allied Health Professions, such as SLT for example."

The participants each represented a specific tribe in the merger meetings, and it was curious to hear their perceptions of the discussions. Participant two likened these meetings to the Northern Ireland peace process.

Participant 2

"So, I … that's when my most work was in shuttling between Hearing Therapists, getting them on site and back and forth with BAAS so many times it was a bit like... I almost likened it to the NI peace process in that there were times we had to have meetings in different rooms and then come together, with me going back being a mole…"

Participant 3

"I can't remember where these conversations happened. I probably was on the accreditation board, so when we set up the board, we had a split between the three disciplines and within a fairly short space of time, we identified we had got very similar issues and we agreed, we arrived at consensus in the sense of we agreed we had to work out how to work on these and at the time, we began to feel that we were beginning to breakdown the tribalism that had existed."

"I'm sure there were people, the hearing therapists were deeply disenchanted by the whole thing, the clinical scientists, I'm sure both the clinical scientists and the audiologists, there were those that didn't want to go this way."

Participant 4

"Sometimes they went extremely well and others not so well. I think to be fair with you, the scientists were kind of trying to take over the world. The hearing therapists there was lack of numbers. BAAT was kind of, "Hang on a minute, what's going on here chaps, there needs to be an equal voice here irrespective of numbers or irrespective of what kind of qualifications you have". So, this is kind of what happened. Basically, I think all three groups were kind of put in the melting pot and BAA was then formed."

Participant 6

"Interviewer: Thinking back to when BAA formed, we're looking at obviously the hearing therapy side, the technicians and we're looking at what was then called the British Association for Audiological Scientists, so when they were talking about setting up BAA, what do you remember from that process? What was it like in terms of getting them to agree on a way forward?

P6: I think it was all generally quite positive, I think by that time, the people from the various groups, perhaps not so much hearing therapists but certainly audiology technicians, had become so familiar with working with scientists and quite a lot of them had been trained by scientists themselves, so that they'd been interacting a great deal and they could see the common ground very easily."

In asking if the private sector engaged in these merger discussions, participants provided more information stating for the most part that it was not the right time. The merger attempted to consolidate the NHS professionals and three participants indicate that it is now time to look at merging the organisations in the private sector and NHS.

Participant 2

"We got really close with BSHAA of making the, of making them part of BAA as well and standardising on the degree as the qualification and they agreed in principle to that. Where it fell down is the lead time it would take in order to get people into industry, compared to their training programmes."

"I really, really think what we did with BAA we kind of need to do with BSHAA and AHIPP and everybody else and say, "right, for goodness' sake let's stop messing about with three different registrations and let's work out how we are gonna do this". That's what we should do."

Participant 4

"Interviewer: Thinking back in terms of when BAA formed, was there any appetite to involve the hearing aid audiologists or the dispensers in kind of those conversations?

P4: I don't think so at that particular time. I really don't think so…

Interviewer: Why do you think that was?

P4: I think to be fair with you it was they were looking at the three areas such as hearing therapists, the scientists and also the audiologists as well to try and get those amalgamated, the NHS professionals so to speak, amalgamated into one particular organization.

Interviewer: So very clinically focused

P4: I think it was very NHS focused. I think it was kind of, you know what they ought to have done, perhaps looking back in hindsight, is to say well actually let's have a look at who is actually within audiology and who would, you know, to look at the model and to look at the training in its totality and say "hang on a minute this is also going to benefit you guys as well" but unfortunately that didn't happen."

Participant 6

"Interviewer: At the time, were you aware of any conversations with BSHAA because obviously we now also have the hearing aid dispenser training pathway, to try and see if they would come into it as well?

P6: Yes, I've been aware of relationships between BAA and BSHAA and the equivalents before that time, there's always been a distance between them really, I think, and I think that still exists and it's always been difficult to get close to them.

Interviewer: Why would you say that is?

P6: I don't know really, including the time when I was ▮▮▮▮▮▮▮▮▮▮*, I met with people from BSHAA and tried to get things to be sort of closer and there was always a certain reluctance. There are different priorities in BSHAA and a big one is the commercial side of things, so anything that impacts on their commercial practice and whether they might be displaced by a growth of hearing aid provision in the NHS, has always led to a certain amount of nervousness."*

Participant eight referred to recent merger discussions around creating a College of Audiology, linking the private sector and the NHS.

Participant 8

"Yes, there was some discussion as to whether or not there was an opportunity there to come together, to be part of this larger organisation. A little bit, it's slightly similar to the current discussion around the College of Audiology, the unified voice, the stronger voice? The trouble is at that time and it's not that long ago, but it is surprising how quickly the world has changed, at that time, there was not really the willingness to sit down and talk to each other respectfully. I think probably the fact that the independent sector was seen as just being too commercial to really warrant being part of the BAA, it was to do with the commercialism. Again, I think a lack of understanding but then, BSHAA in the same way, but also their attitude then would have been, "Why do we want to get involved with NHS people? Why should we want

to? We're strong, we're powerful, we're wealthy" but of course, it's split, it maintained the division of the two sectors, the fragmentation of the professions, so I think it was probably too soon to talk seriously about amalgamation of organisations into one, particularly as the ones that formed the BAA were NHS, they had something in common, not everything in common and I understand this hierarchy and still ongoing issues, but the independent sector was just considered a bit too different then. Now, things have moved on."

In the past, discussions around merging professional organisations focused more on the service being delivered and the context in which it was delivered. There is a sense of competition between **the tribes** to maintain the status quo when the profession should be about the patient, the person with hearing loss. Participant eight provided further insights.

Participant 8

"Historically it's one of the biggest issues, particularly in the independent sector, is trying to maintain the status quo. We have the professions in audiology coming increasingly closer together, the discussion now around a possible College of Audiology, the professional organisations sitting down at the same table, in the past BSHAA and the BAA really would not get together, except very reluctantly, but things started to change about 10 years ago, …"

"With audiology, I think it is just a matter of timing now. I think everyone's attitude towards each other has changed so much, I think they realise that again, looking at similarities, that the challenges being faced are best faced in a unified way. There are problems which can be solved, which are best solved together, whereas we all try to solve the problem in different ways and instead looking inwardly and being protectionist. We need to look at whose interests are we ultimately really trying to serve? It's the public, we're trying to serve the hearing impaired public and those with hearing and balance issues, and tinnitus issues, they're the people we've got to focus on and therefore become a little less concerned about maintaining status quo in terms of the service, "this is how it's done", in a hospital for NHS rather than being out in the community."

The outcome of the merger that created the BAA improved the voice of the NHS professionals.

Participant 2

"It was quite a few years and quite a few trips up to Leeds and back and all that kind of stuff, but you know, yeah, we got there in the end and Manchester was the first conference where we had to say, "right, we are all one profession and stuff". It enormously saddens me that it wasn't that long before the degree became something else and everything... other pressures came from elsewhere and standardisation in different ways, but I think we have a better profession and a better standing within healthcare and a better autonomous profession than had we not."

"And a better voice."

The overall professional voice is still fragmented as can be seen in the interviews where participants discussed **the tribes**' influence on the voice of the profession. This fragmentation is further complicated by the overlap with tribes outside of the non-medical audiology group.

Participant 1

"No, I think you are right one of the problems here I think is that when you talk about, we have a professional body you are talking about the BAA. But that is a group that really essentially represents uhm, non-medical audiologists."

"Then there is the BAAP, who are small in number but uhm have considerable influence…"

Participant 3

"P3: Every department has its own little culture and its own little business, every single department.
Interviewer: Which is why we know that we've got Teachers of the deaf who did hearing aid fittings for paediatrics in some parts of the country and in others, it was clinical scientists and in others it was technicians.

P3: Yes, it's been a completely haphazard, ad-hoc arrangement, a patchwork depending on who you've got, what their interest is, what their skill set is, the infrastructure they work in, that's how it works.

Participant 5

P5: I think initially, there was quite a bit of I want to say resentment but why community paediatric consultants who obviously specialised audiology, why they were involved in the testing, it didn't seem right.

Interviewer: Why would you say that?

P5: They're medical people with a specialist interest but why somebody at that salary should be doing it when there's good audiologists and scientists who can do the actual diagnostic work.

Interviewer: Why do you think it happened, that the paediatricians got involved at that time? Why do you think they felt obligated to do a service? Is there anything like that that happened at the time?

P5: I honestly don't know, it just happened. Probably because they were medics, they thought they were the ones to do it."

The many different organisations create a confusing context for the employer, so it is not clear to those unfamiliar with the many nuances of each tribe which organisation to consult. The influence of **the individual** comes in to play here as well as they can also influence the views of **the tribe** and direction of the organisation.

Participant three felt that the profession does not have the gravitas required for an influential voice.

Participant 3

"I don't know that we're necessarily, I don't know if we're at the top table, I don't know if we're engaging in high level conversations."

"No, and again some of that's we don't have the gravitas either, we don't have the research profile, the international research profile."

Participant seven felt that the profession is too inward looking and participant three also considers this aspect, saying that the profession does not engage with other specialities.

Participant 7

"They used to say audiology was a Cinderella service meaning it was a trivial specialty, but I think the real reason, audiology was so protective about audiology, it wouldn't look outside, I mean without naming names, when I got involved in the PTP undergraduate course I literally was parachuted in because the people involved [at the time] in the design were only interested in audiology and wouldn't look outside the box, whereas I was quite happy because I did audiology, neurophysiology and respiratory physiology of all things, collectively, and because audiology was so self-centred, it only looked at itself and believed that the only way forward was to protect itself, so having the influence of other specialties was a no-no."

"Including the number of arguments I had with some very eminent people, that aspects of neurophysiology is very applicable to audiology and we could learn from them but no, no… "this is purely audiology and the fact that we do various electrical recordings", I'm using those words broadly, almost exactly saying as neurophysiology, okay neurophysiology may have done vision and may have done audiology but the process was the same, but people just didn't want it to happen so in some respects, audiology was … self-protective and that's one of the biggest downfalls, we would never think outside the box."

Participant 3

"Yes, and we're a tiny profession as part of a very big organisation. I think again, we're not … we need to work much harder at networking and tapping into the wider healthcare landscape, we need a lot more partnerships with other professions, so people talk to each other and find out how they grapple with these problems because they're not unique to us by a long shot."

The topic of ownership as part of being a profession was also mentioned in some of the interviews and participants' views ranged from saying they felt that we did not have ownership to having a fragile grip on our profession.

Participant 2

"Interviewer: Do you think we have a handle on what it is that we do as a profession, we have ownership of what we have, like this is the bit that we do and that no one else can do it?

P2: Well, no, because of the different tribes involved in them so tinnitus is a good example. Our hearing therapist here did all sorts of training, including an MSc in Mindfulness to be able to offer all sorts of stuff, including a Hearing Therapist qualification in the first place. You've now got dispensers saying, "yeah we offer a tinnitus service as well" and I asked ▮▮▮▮▮▮▮▮▮ *"so, what is it that they've done, what do you consider under their registration would be an acceptable minimum amount of training to be able to say I consider myself qualified in order to do this service" expecting an answer and he said, "I don't know what do you think" so I went "huh?""*

Participant three presented an interesting viewpoint about ownership by saying that we cannot own it due to the nature of the relationship between the profession and the employer.

Participant 3

"Interviewer So, in terms of what we do as audiologists, if you take audiology as a profession and not the tribes necessarily but what we do for patients, do you think we have ownership of what we do?

P3: No, we can only deliver …

Interviewer: Why would you say that?

P3: Because we're at the behest of the Department of Health and the importance …

Interviewer: So almost as if there is no kind of collective idea of what an audiologist is and what an audiologist should be able to do.

P3: I think there is, an employer will know what they take on an audiologist to do and the Department of Health does that, I think it's more … we can't own it because we are delivering a service on behalf of other people, who pay our jobs, who provide us with the buildings, who give us the patients."

"I get what you're talking about professions, I know what a profession is from that sort of, the concept of a profession and we are not a profession, we do not own our public

profile, we do not own the body of knowledge, we do not have the identity like medicine or law which are extremely old established professions."

Participant 6

"Interviewer: We still have the hearing aid dispensers, we've got audiologists mostly working in the NHS, but do you think we have ownership of our profession and the procedures we do, the services we deliver?

P6: I think probably on balance I would say yes but I think it's quite a fragile grip on that because there are sort of dangers on that."

Participant 7

"Interviewer: … do you think as a profession, we have ownership of what we do or clear-cut ownership of what we do?

P7: No, definitely not. I think there are other health professions who, if you chose to move into their scope of practice, and offer your services in that area, they'd jump on you like a ton of bricks, but we don't do that, not at all i.e., no protection."

The influence of **the tribes** on education is evident from the interviews when participants discussed how decisions for changes in pathways came about – often at the behest of the different organisations.

Participant 1

*"And in due course, ah, not very long afterwards in the 1980s, that association realised that a 1-year MSc was insufficient to be able to provide the theoretical and the practical competence for post graduate audiologists. So, it was no good going back to the universities. The universities in the UK then were not keen to suddenly change their one-year MSc's into 2-year MSc's. So, the **British Association of Audiological Scientists** invented the Certificate of Audiological Competence, the CAC.***"***

Participant 2

"So, it was, it was a fascinating time really and through all that we finally got to a position, where through an enormous amount of work with Department of Health and ▮▮▮▮▮▮▮ CSO, supporting in terms of the degree and all of this sort of happened. It was quite a few years and quite a few trips up to Leeds and back and all

that kind of stuff, but you know, yeah, we got there in the end and Manchester was the first conference where we had to say, "right, we are all one profession and stuff"".

Participant 4

"Basically, I think all three groups were kind of put in the melting pot and BAA was then formed. At this particular point then the degree in audiology was being thought about, and obviously things started to happen regarding that."

Participant seven expressed the hope that the BAA merger eliminated this tribalism, but it continues. The impact of the tribal influence in education pathways appears to perpetuate the existence of **the tribes**, as the current education pathways result in titles linked to different scopes of practice.

Participant 7

"Yes, because I always thought that when BAA was formed with the hearing therapist and audiology technician and scientist came together, that would get rid of a lot of this tribalism and to some degree it has, that tribalism now sits within the education or the academic system. Dreadful thing to say but that's how I perceive it."

Participant eight expanded on the tribalism that exists in education as indicated by participant seven, in that education influences the views of the prospective applicants.

Participant 8

"I almost always find that when I start to meet the students, they have already formed a view about the independent or private sector and it's usually, it's actually very often quite negative. The reason why I think that is the case is they assume that once they graduate, they will go and work for the NHS, their placements are all in NHS audiology departments, and not many universities actually arrange placements with independent sector providers."

The existence of tribes and the range of education pathways may perpetuate fragmentation of the profession, complicating the context. Participant four and seven both indicated that strategies to mitigate the fragmentation would require steps to unify the education system.

Participant 4

"But also, as well, one of the biggest let downs for myself is when the Degree came along, I thought it would be useful for anyone who wished to work in audiology to actually undertake the Degree. They would have also training with regard to private dispensing and everything else. So, what it does is to actually provide you with a fundamental practitioner that can either work in the private or in the public sector, and that if they wish to specialise further then obviously that will provide them with a good platform to actually do that. But that hasn't happened, and that's what I'm really disappointed about."

Participant 7

"People still put-up barriers, irrespective of their educational background, if they're called an audiologist or a clinical scientist, they're seen as different. If you could get everybody to call themselves one or the other because most undergraduates now, most audiologist/clinical scientists have a degree of some description, and you weren't differentiating because of a particular expertise you had, I think that would be a first move."

The influence of **the tribes** on the profession is perpetuated by the fragmented context it creates. Participant one highlights that this fragmentation provides an opportunity for tribes to be pitted against one another.

Participant 1

"…, I mean the Department of Health essentially has been able to some extent divide and rule because there is also the British Society of Audiology, which is a sort of umbrella organisation."

The influence of the employer on the profession is explored in the next category.

c) *The employer*

This category considers the influence of the employer on ***becoming*** and ***being*** an audiology professional. The participants describe a context where the employer has an influence on the education pathways as well as the structure of service delivery (figure 34).
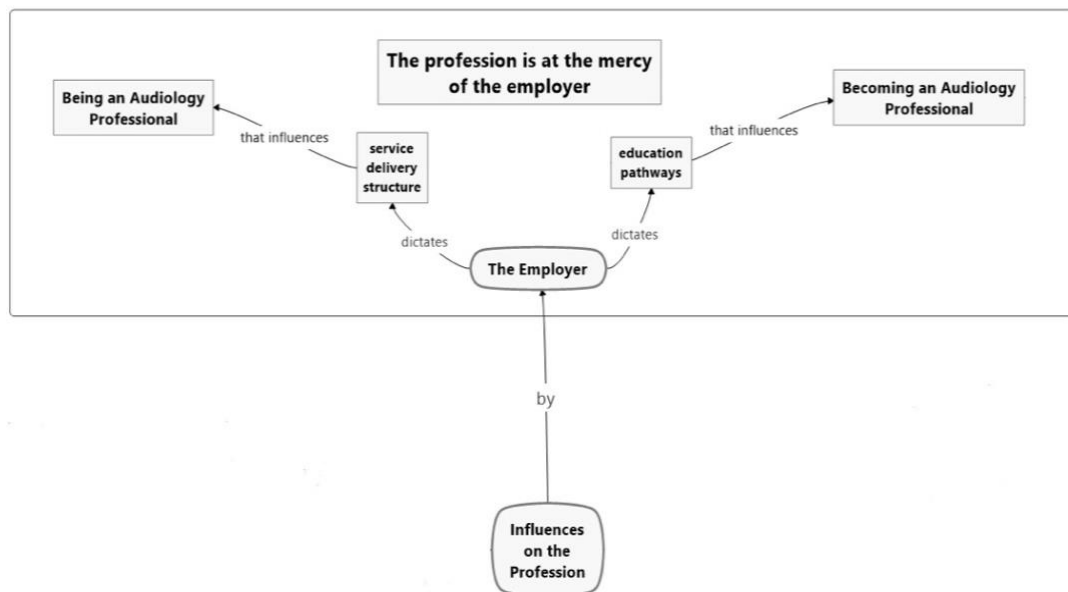
Figure 34 – Influence of *The Employer* on the Profession

Participant one provided some insight into the overall context of delivering audiological services in the United Kingdom, also highlighting the influence of the employer in that it dictates to the profession.

Participant 1

"I think the position in the UK was complicated, because it is quite interesting to think why it happened like that here and apparently not elsewhere. Although I think if you look closely at, you know, Spain or Italy or France you probably uncover similar anomalies. So, I'm not sure we English speakers are used to the more clear situation in North America, New Zealand, Australia, South Africa. But I think there a quite a number of other countries where the whole thing is rather more muddled.

But anyhow, uhm I think one of the, there might be two other kinds of factors in the UK. One is that the NHS has for years been overwhelmingly the single biggest employer of audiologists and that can distort things if the Department of Health get too soviet about ah how they want the training to be done or whatever. Uhm and the other thing is that there was nevertheless a reasonably thriving private sector for adult hearing aids and so you got the British Society of Hearing Aid Audiologists (BSHAA) as it was then, for private dispensers and that was another kind of complication and no one, no one really brought it together."

The interviews provided a sense of the profession being at the mercy of the employer in terms of becoming and being an audiology professional.

Participant 1

"But, around about, you know the late 90s, the Department of Health began to think we've got a nightmare here of 50 different health sciences. With every different uhm, sort of training thing you know, all sorts of problems in pay and terms and conditions, let's try and rationalise it. So, I think the influence of the NHS as an employer, got in the way of audiology being able to sit down and say let's make this nice and easy for audiology."

Participant 2

"You are right and because of this business you are describing, of such a big employer, you can get close to how you think things should be and then you get driven by national initiatives, that are not aimed at you, but which you have to be part of, and things have to change again."

"So, until we are able to define that in our way and have the power of some of the royal colleges in terms of saying, "this is what do", we will be forever at the mercy of that big employer going "oh we are changing the way we are doing education now, we are changing this, we are changing that"."

Participant 3

"Different government drivers, so hearing therapists were… came into being following a government report in 1979, that the clinical scientists were not so sure about but again that was to do with government funding, so again these are kind of bigger picture drivers that brought these things into being."

*"**Interviewer: …what do you think the NHS's role has been in all of this as an employer?**
P3: It's called all the shots really, it's set the agendas, it's made reporting changes, that's the way it's taken things forward."*

Participant 5

"BAA can only do so much because of the outside influences from the Department of Health."

Participant 6

"Interviewer: What are your thoughts about that influence that the employer, the NHS, Department of Health has had on the actual development of the profession?
P6: I think it's been more negative than positive overall."

Participant 7

"We didn't have a choice. I would subscribe to that completely, that was dictated to by the chief scientific officer who wanted to put these 51 different professions into pathways or siloes, but not single siloes and it was either, that's what's on offer or nothing."

i. <u>**The employer's influence in becoming the audiology professional**</u>

Participants one, two and six were involved in different ways in the changes in education over the years and provide evidence of the influence of the employer. Participants one, two and six refer to the creation of the first undergraduate degree in audiology and the involvement of the Department of Health in setting up the degree pathway. This involvement resulted in the provision of funding for students to enrol on the four-year degree that included employment in year three while on placement.

Participant 1

"And to, actually, to my surprise that argument won the day in the end and in 2002 the DH put out a commission, or 2001, for universities to run a new 4-year BSc in Audiology and to close off the old non graduate training, the BAAT training."

Participant 2

"So, it was, it was a fascinating time really and through all that we finally got to a position, where through an enormous amount of work with Department of Health, and Peter Greenaway CSO, supporting in terms of the degree and all of this sort of happened."

Participant 6

"Yeah, very much so and I was central to the setting up of the BSc Audiology programme in ▮▮▮▮▮▮▮▮▮ *, which was not exactly the first, but it was one of the early runners, so I was very much involved with working together with the NHS locally to* ▮▮▮▮▮ *because the bids for those programmes has come jointly from the healthcare providers and universities, and also, I was involved I had quite a lot of interaction directly with the Department of Health over doing that."*

Participant six also mentioned the involvement of the Department of Health in the creation of the postgraduate pathway.

Participant 6

"I was also aware that ▮▮▮▮▮▮ *, who died recently as you know, he was in negotiations with the Department of Health, was instrumental in having the Department of Health accept the clinical scientist or audiological scientist as a name for the profession within the NHS in the UK."*

Modernising Scientific Careers (MSC) was introduced by the office of the Chief Scientific Officer in 2009 and resulted in the cessation of the existing undergraduate audiology degree introduced in 2002/3. The BSc (Hons) Audiology degree offered between 2002/3 and 2009 produced its first graduates in 2006 and the workforce was growing. Interview participants describe the introduction of the new MSC curriculum and comments indicate that it was not well received by those in the education sector or the NHS. The change in curriculum instigated by the Department of Health threatened the status quo of the workforce in audiology as it also removed the funding support. It should be remembered that this new curriculum only affected the professionals working in the NHS and not those in the private sector, though the indirect impact was seen in limiting progression from hearing aid dispenser to audiologist (see section 2.2.2). Participant six provides insight into the influence of the employer on the provision of education during the introduction of the MSC curriculum.

Participant 6

"P6: Yes, I think we managed to encapsulate it (QAA Benchmark statement for Audiology) *quite well and indebted to speech and language therapists a great deal.*

It's enormously better than the things that have come out of the Modernising Scientific Careers developments.

Interviewer: I was going to ask about that, what are your thoughts about Modernising Scientific Careers and the way that was structured?

P6: I think it was poor overall. The people who were involved and closely advising the Department of Health had very limited knowledge about education, they thought a curriculum was a very long list of subject topics, they didn't understand really what the word curriculum means and that curriculum is a whole process of both the learning and the assessment of learning, and implementation and all of those things, they just didn't have any understanding of that and they thought that better education meant adding more to a very long list of subject elements."

"There's very little dovetailing of the content to the nature of the work they'll be doing at the end, so there's a lot in the curriculum that is frankly pointless, the students will learn it for their exams and then they'll forget about it the next day."

"The education professionals are not just people that know something about a topic, they do know a bit more than that and they're familiar with putting together education pathways and to understand the long term and developing people's thinking skills and all those sorts of things, but particularly during the Modernising Scientific Careers period, the Department of Health exercised a lot of power and rather arbitrary power, to force universities to do things that they didn't think was right and I don't think that's been helpful."

"I think the education providers have been able to surreptitiously to ignore a fair bit of that and still provide good education but they don't get credit for it really, so it's been an uphill struggle I would say, and I think it would be probably better if the Department of Health/NHS England now would back off a little bit and trust the professions to do a good job at setting standards."

ii. **The employer's influence on being the audiology professional**

The NHS is the biggest employer of audiology professionals in the United Kingdom, and it sets the overarching career framework and structure of service delivery. The Healthcare Science Career Framework structure acts to define the general remit of the professional at each stage and in the NHS, this takes the form of nine stages

linked to qualification. The salary structure sits in parallel with this career framework but can be more flexible and employees can be appointed at a lower or higher Agenda for Change band compared to their career framework level. Qualification acts as the entry point and typically graduates from pre-registration courses in audiology enter the NHS workforce at career framework level five and Agenda for Change band five (as discussed in section 3.5.1 d). Participant one refers to this career framework and its 9 stages and mentions the difficulty in discriminating between the different levels.

Participant 1

"Yup. I think the model of the 9 band… there are some really fundamental principles underlying the delivery or the profession of the health science profession in the UK about which nothing can be done now."

"And actually, on paper, you could argue that it makes sense. So, if I say to you well, there is a whole range of or a whole level of skills, let's call it, let's say we can identify 9 different levels of skills. Actually, I think that's probably, that's slightly too many, because it gets very difficult to discriminate them, but anyhow, there is "n" different levels of skills from an economic point of view, the principle that you want the lowest paid professional who can work safely and effectively doing any particular job. Right?"

"There is that principle; you don't want highly qualified people doing really low-level jobs. You want to push it down to where you don't have to pay so much, I know this sounds crude."

"That seems like a reasonable structure. You probably want to moderate that by saying something about the continuity of care for any individual patient so that their journey doesn't get utterly fragmented at different levels. But if you take all of those things into account then you might well say, ok, whether we are talking about audiology or clinical physiology or whatever, let's have you know, we'll train a group of people at pre graduate level, a group of people at graduate level, a group of people at post graduate level, let's leave it at that, you know."

"And they will enter the profession as independent clinicians at those three different levels and then the only thing you want to add to that is well you have got to make

sure that the people who, because for whatever reason, entered at level 1 can find their way up to level 2 and 3 with in-service training."

"And that's, really is the model that we have. It's got a bit more complicated by silly titles and 9 bands but that's it. Isn't it?"

"So, and the, NHS or the DOH was wedded to the notion of a 9-band career structure where people are trained you know, for different levels in 1,2,3 and 4 and bachelors' level at 5 or 5 and 6."

Despite the expectation that a graduate will enter the work force at a band five level it is not consistently applied across the NHS and employment is often a local decision about funding. This discrepancy results in a confusing working environment for the employee as band four and five professionals can be expected to fulfil the same duties with minimal discrimination. Modernising Scientific Careers focused on the educational pathways but also attempted to redefine the career pathway, but progression remains unclear and is now complicated further by the addition of specific qualification levels (as discussed in section 3.6.1 c).

Participant 2
"I think, and this goes back to your question about the NHS as a driver throughout. For years ▇▇▇▇ has been putting up slides that show the numbers in different bandings with the spine of a Christmas tree. On ▇▇ slides they are always on band 4 level with an arrow pointing backwards from band 5 and we always used to argue that ""no because the degree is the standard to be an audiologist to do everything". Whether it is right or wrong... ▇▇▇ right about that odd… to do it that way… purely because of the finances. So, I can't employ as many band 5 audiologists as I want to now. I can't get them [unclear]… and that has helped save money. So, in a position where I am going to tender and thinking about our costs, compared to what other competitors might do, I'd be foolish to plan on higher level people doing some of that basic work."

"So, basically band 5 is becoming band 4. So, if I looked at the model that we created here, were we have lots of band 5 audiologists going off and doing hearing aid work, that will be band 4 in the future. So, do you have that apprenticeship type foundation

degree stroke associate qualification becoming the standard and it is becoming the standard… defacto it is. The real tricky question and one that I keep putting off cos ████ *keeps asking me and I don't really know the answer yet… is how do you write a job description different to our current band 5 or how do you make the band 5 different and I am not sure I have got an answer to that at the moment because I want them to do basically the same thing."*

Participant 3

"I think on the whole, I support the conceptualisation of Modernising Scientific Careers, I get the philosophy behind it, I understand that you've got a very large group of people who have a very mixed range of status amongst their peers and that's because of the problems ensuring they have some sort of coherent training deal that puts them in the same ball park, and I also get that you actually want to try to help people see, to be able to articulate and understand the ways they can grow their careers, so what differentiates you in one particular role as against another? I think that's quite important.

The problem is that many of the disciplines we're talking about are very small so it's still dead men's shoes, we're seeing delivery changing so radically that the NHS as it was constructed at the time when modernising scientific careers was introduced, no longer really pertains and so I don't have a problem with the career framework, I think it's a way of explaining who does what at what level because it is very broad brush.

Agenda for Change is a completely different part, again that's the government deciding who's going to be paid what and really, we have no way of influencing that at all, apart from going on strike."

"If there were more audiology posts, some of this works on a presumption like nursing which is there's nurses everywhere and they're very mobile communities, so there's movement, so many of the modernising science careers are not like that, they're geographically limited to very small departments and once people are there they tend to stick, and their choices are limited."

Participant 7

*"Obviously because I haven't been involved now in the Health Service actively for quite a few years but I presume it would be clearer but I don't think audiology is strong enough, nor militant enough to say that "if you're an undergraduate, you're a 5, if you are a postgraduate, you're a 6 and presumably if you're a higher specialist, you'll be a 7 and if you're then going to be your HS (*Head of Service*) whatever, it's going to be 8 plus".*

The problem is that some 5s work at 4 and some 6ers work at 5 and as a result of that in departments, you will get an undergraduate and a postgraduate both on the same level and then you also get some people doing very specialist work, even at 5 and I think that doesn't help at all."

The interviews described the various cycles of change introduced by the employer affecting the career framework, pay scales and service delivery structure. These changes influenced the experience of being a professional as it adds another layer on top of the clinical remit.

Participant 1

"Uhm and at the same time, there were all sorts of things going on at the same time, there was the Agenda for Change, the reorganisation of a very fragmented, all the health sciences, the health science professions, in this massive employer the National Health Service and so people like ▇▇▇▇▇ came along and said we've got to reorganise this. I think one of the things they might have done, but they never did, was to tackle uhm, these rather odd titles for example."

"… but there was a whole load of things going on at the same time as well as Modernisation of Audiology services, there was the Agenda for Change, the introduction of the BSc and the funding of a lot of training via the Regional Health Authorities. That might be different for Scotland."

*"… but, around about, you know the late 90s, the Department of Health began to think we've got a nightmare here of 50 different health sciences. With every different uhm, sort of training thing you know, all sorts of problems in pay and terms and conditions, let's try and rationalise it." (*Modernising Scientific Careers*)*

Participant 4

"The pay scales were what is known as Whitley Council pay scales. Now Whitley Council introduced a clause that obviously if you wanted to become an audiology technician you needed to have a minimum of a BTEC National Certificate in Medical Physics a Physiological Measurement."

"I mean historically we were on Whitley council then if you like we then went on to medical technical officer gradings and then after that there was then the Agenda for Change and to be fair with you the Agenda for Change was introduced and I will be honest with you most trusts, probably now would be Health England or whatever they are called in this day and age, are probably regretting the day that Agenda for Change actually came about, seriously they are."

"They can't afford it. They just can't afford it. So, really as I say they were probably thinking they we were going to be really clever here and what we were going to do is increase the number of bandings but obviously we are going to have a lot of the staff on the more lower landings. But actually, it didn't work out like that."

Participant 8

"It was the days of when the NHS was getting into severe problems with long waiting lists in audiology, so it was the time with the modernisation of hearing aid services, introducing digital hearing aids but they also wanted to work with private sector, selected companies to be able to shorten the waiting lists, it had become a serious issue and I was offered a contract with my local NHS Trust, as part of ▮▮▮▮▮▮
▮▮*."*

Audiological services sit within the healthcare science group in the UK which aligns with professions such as clinical physiology and biomedical science to name a few. In other parts of the world, it is identified as an allied health profession. The link between audiology and speech language therapy that exists in some parts of the world seem to be at odds with the profession's place in healthcare science. I was interested to know why audiology is not considered an allied health profession in the United Kingdom and posed the question to the participants. Responses varied but no one was able to provide a definitive answer.

Participant 1

"Interviewer: I'm glad that you brought up the allied health professions because this always bugged me. Why is audiology not an allied health profession, why is it a healthcare science?

P1: Yup, I can't answer that I mean it is a historical quirk, but I think it's very unfortunate"

"You know these terms should mean something to the public and if they don't, they shouldn't be used, and I think the distinction between Healthcare Science and Allied Health Professional is meaningless."

Participant 5

"Interviewer: I find it interesting that they've put us in with healthcare science, simply because we've had this, you know the education pathway they proposed, the whole hearing, vision, neurophysiology being part of one section and to me, I don't know what your thoughts are about that, is that the right combination do you think?

P5: I think it's one of the better groups. Why I'm saying that is because at ▉▉▉▉▉▉, *when I got there, audiology used to do all the diagnostic work for the eye department, the evoked potential work, so I can see that being a group. Would people rather be with medical physics? But then you haven't got the patient contact, well I suppose you have in some medical physics but …*

Interviewer: But that I think is the whole crux of the thing, is the interaction we have with patients, and I think you're right, it's probably the best match within the 51 professions. For me personally it's an interesting one because I'm dually qualified, I trained as a speech therapist and an audiologist, so my thinking is slightly more radical away from healthcare science in term of speech therapy!

P5: That was a discussion mooted years ago, whether we should be an AHP but then how can I say, audiology became, we didn't just do a test and give it to doctors, we interpreted the results, we started doing reports and we had more responsibility for the patient care pathway, like speech and language therapy, it's like moving from just being a technician to a graduate profession that has more responsibility for patient care and outcomes, rather than you just do one test and you don't report on it."

Participant 6

"*Interviewer: Because like I said before, I trained as a dually qualified speech therapist and audiologist, so I could be biased when I say I see the two of them link well together, I can see links between neurophysiology and vision, but I'm not entirely convinced, so what are your thoughts around the relationships with other professions?*

P6: You won't be surprised to hear that when Modernising Scientific Careers was in its early stages, that issue was raised, why not form some links with speech and language therapy? But there is a structural divide as you know in the Department of Health, in that speech and language therapy falls into Allied Health Professions, whereas audiology comes into the Science arena and that's a barrier that's insurmountable and it's just stupid departmental subdivisions.

Interviewer: Where does that divide come from? Why we have been put into the Healthcare Science bracket, I know there's science but why have we specifically gone in that bracket rather than going into Allied Health?

P6: It grew up in that way, I think, and it was to do with the fact that there was a need for a high level of scientific training, more in the hard sciences, particularly at the time we were talking about early 1972. If I could just backtrack slightly on that, for some time then the big thing in audiology was differential diagnosis and it's before there was ready availability of even CT scanning, let alone MRI which wasn't available at all at the time, so spotting acoustic neuromas was quite an important thing to be doing and the electrophysiological tests for doing that and then also behavioural tests, so that was one of the targets and that's quite a lot different from the work of speech and language therapists.

It's more recently that we've moved more onto the more holistic treatment of patients and focusing on the therapeutic side more than the diagnostic side.   So that's part of the history but the division into the Allied Health professions and the Science side, I don't know when that happened, but it's got a long history, I think, it may even have funding implications as well."

Participant 7

"*Interviewer: I think if you compare it to other health professions, the comparison between allied health professions and healthcare scientists is an interesting one because healthcare scientists have to be grouped together as a*

number of professions, whereas you have AHPs, they are a group, but they exist as individual professions and they all have their own colleges.

It does actually make me wonder about the fact that with audiology turning into more of a rehabilitation aspect, whether we actually are an allied health profession because in a number of other countries in the world, we are allied health professions, we're not scientists.

P7: I concur with that, I think the concept of being a healthcare scientist is the wrong expression, it's about communication and it's about rehabilitation and probably 80% of our work is about that, and therefore we sit in the wrong pocket, and I think that's why people were so entrenched when the PTP undergraduate came out, about being labelled as healthcare science.

If there was an offer of moving to allied health, I think even I would have chosen that, but the fear was from my point at the time, that if we didn't subscribe and get ourselves involved in healthcare science, we would get left out completely."

d) Summary

This theme considered the **Influences on the Profession** ranging from the individual to the tribes, all within the context of the employer. The ***influence of the individual*** is split into external and internal individuals that has an influence on the profession's direction of movement. The ***influence of the tribes*** is linked to the various professional bodies perpetuating the fragmented profession and expands on the ***influence of the individual*** and places it in the context of the professional bodies. The ***influence of the employer*** is seen in the creation and cessation of education pathways as well as the structure of service delivery. Figure 35 provides the visual representation of all the influences on the profession.

The discussion of the results will now focus on the data collected as part of the survey in stage two.
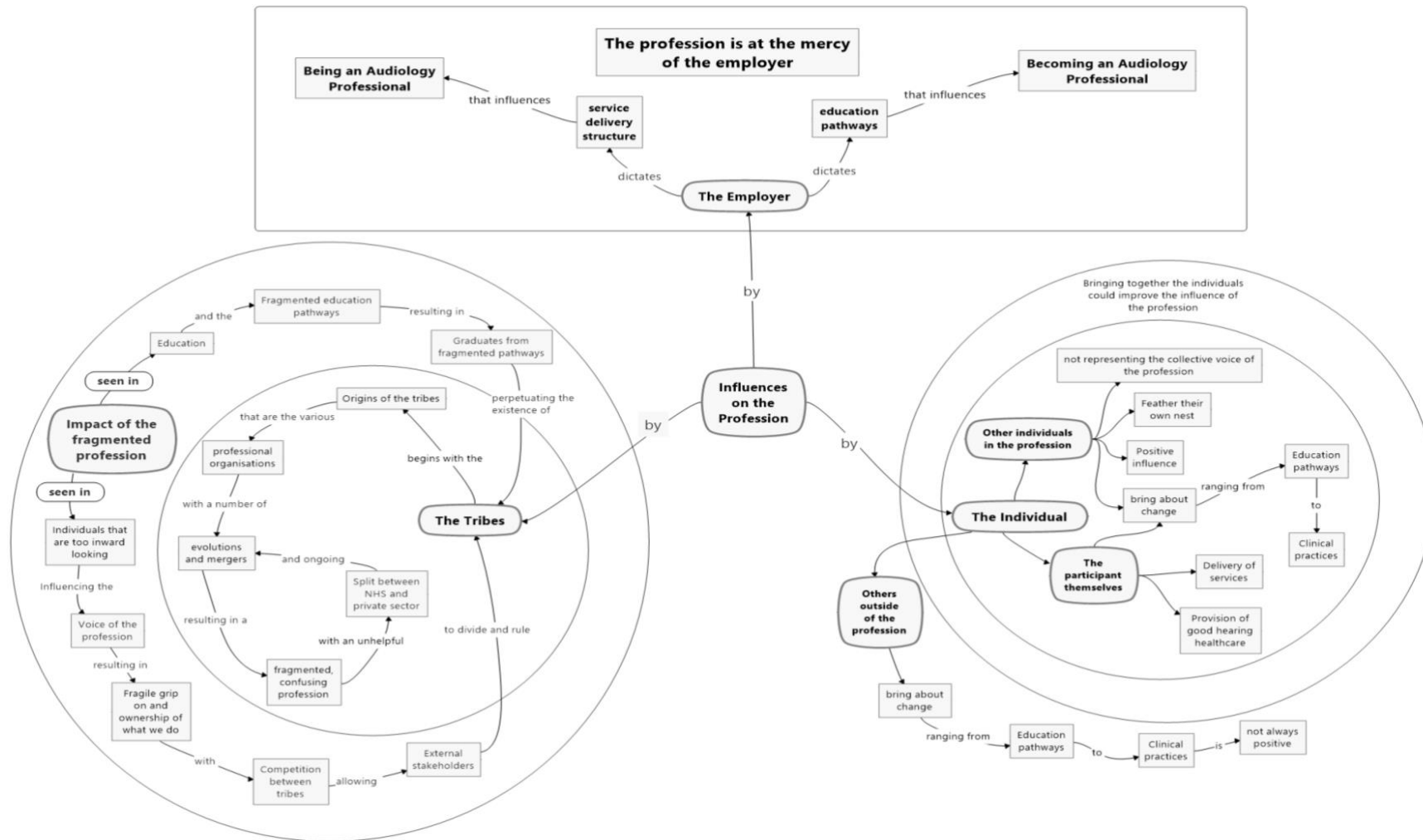
Figure 35 – The *Influences* on the audiology profession

6.5 Survey design

The coding scheme developed in stage one of the study was used to develop the questions for the survey and focused on the first two strands of the research question. Table 34 is a combination of table 31 and table 29 detailing the link between the research strand, the coding scheme and survey questions.

Table 34 – The link between the research strand, the coding scheme and survey questions

Research Strand	Coding Scheme			Survey questions	
	Theme	Category	Relates to	Topic explored	Relevant questions
				Demographics	Questions 1 to 6
The experience of **becoming** an audiology professional	Becoming the professional	First exposure to audiology	How the participants found out about audiology. It varies from personal experiences to accidental with no previous knowledge of the profession.	How and why, they chose audiology as a career?	Questions 7 to 11
		Many roads to becoming	The different pathways from researcher turned clinician, learning on the job and gaining a qualification later, as well as combination of vocational training and university/college learning.	Which route(s) they followed in becoming an audiology professional?	Questions 12 to 13
		Who am I?	Which of the various titles they use? It is often more than one.	Which audiology professional they identify as?	Questions 22 to 23
The experience of **being** an audiology professional	Being the professional	Setting the scene	Fragmented profession of many different titles and tribes in audiology.	Which work context they are employed in?	Questions 14 to 15
		Tribal views	Awareness of how the tribes view each other.	What is their professional expertise, registration status and professional body membership?	Questions 16 to 21
		Continuing their professional development	The motivation to develop further as identified by participants. At times this involves joining another tribe.	What is the perceived difference in scope of practice between the different audiology professionals?	Questions 24 to 25

6.6 Stage Two: Survey results

The survey was circulated to audiology professionals working in the United Kingdom. It provided an opportunity to capture the wider audiology population's experience in relation to becoming and being an audiology professional as the eight interview participants discussed in stage one, qualified before the introduction of the undergraduate pathways to becoming an audiologist and hearing aid dispenser.

The survey focused only on research strands 1 and 2 to capture more data on the various professionals to flesh out the information about the fragmented profession, as it exists currently.

The survey responses will be discussed according to the following sections:
1. **Demographics** (**Q1 – Q6**)
2. **The experience of becoming an audiology professional**
   a. How and why, they chose audiology as a career? (**Q7 – Q11**)
   b. Which route(s) they followed in becoming an audiology professional? (**Q12 – Q13**)
3. **The experience of being an audiology professional**
   a. Which work context they are employed in? (**Q14 – Q15**)
   b. What is their professional expertise, registration status and professional body membership? **(Q16 – Q21)**
   c. Which audiology professional they identify as? (**Q22 – Q23**)
   d. What is the perceived difference in scope of practice between the different audiology professionals? (**Q24 – Q25**)

6.6.1 Demographics

The first section consisted of six questions that provide an overview of the respondents and their demographics. All 329 respondents confirmed that they are currently working in the audiology profession in the United Kingdom, as part of question one, before being able to continue with the survey.

Question 2 – What is your year of birth?

Respondents were asked to indicate in which decade they were born as indicated in figure 36 below. Of the 329 respondents none were born before 1950 or after 2000.

The largest grouping of respondents (108) was born between 1980 and 1989 or between the ages of 31 and 40.
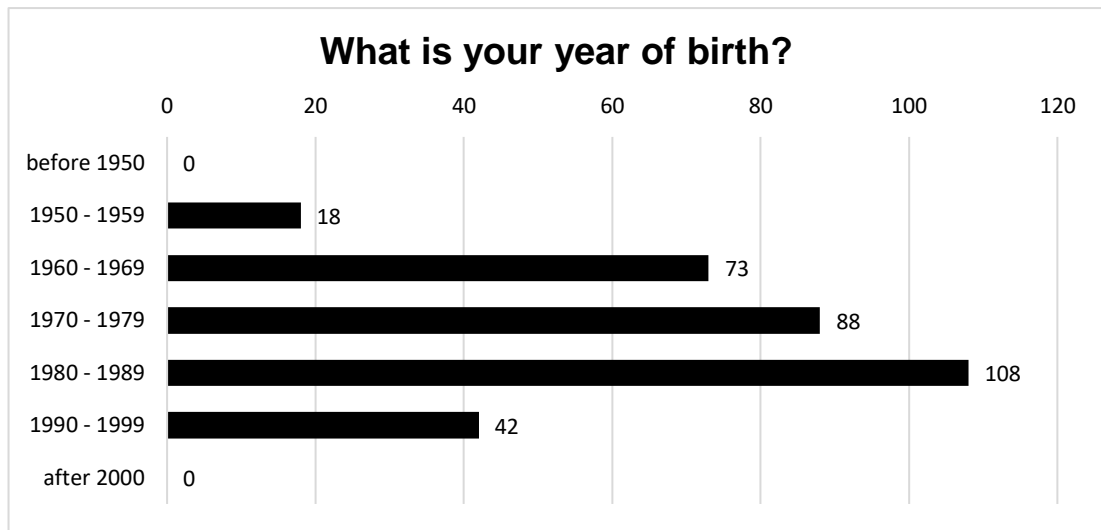
Figure 36 – Year of birth

Question 3 – What is your gender?

The response to this question indicated that 266 of the respondents were female and 63 were male (

Table 35). None of the respondents selected the options listed as '*other'* and *'prefer not to answer'*.

Table 35 – Gender of respondents

What is your gender?	Number of responses
Male	63
Female	266
Other	0
Prefer not to say	0

Question 4 – In which United Kingdom home country do you work? (If more than one, please select all that apply).

Most respondents (258) work in England with 32 in Scotland, 22 in Wales and 20 in Northern Ireland (figure 37). Three of the respondents indicated that they work in more than one home country, with one working in England and Scotland and two working in England and Wales.
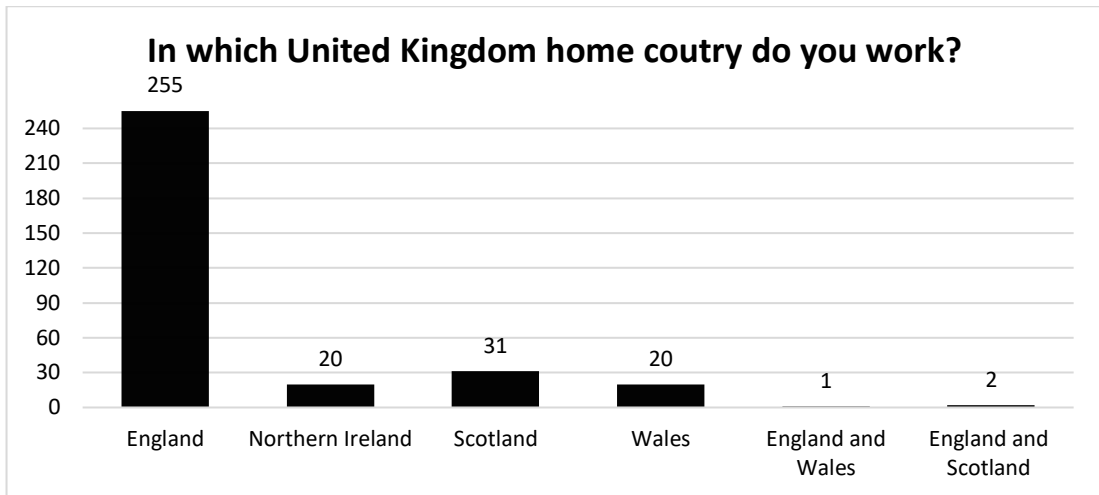
Figure 37 – United Kingdom home country

Question 5 – How many years have you worked in the profession of audiology?

Figure 38 below provides an overview of the responses with 105 indicating that they have been working in the profession between 11 and 20 years. Seventy-three of the respondents have worked more than 30 years in the profession.
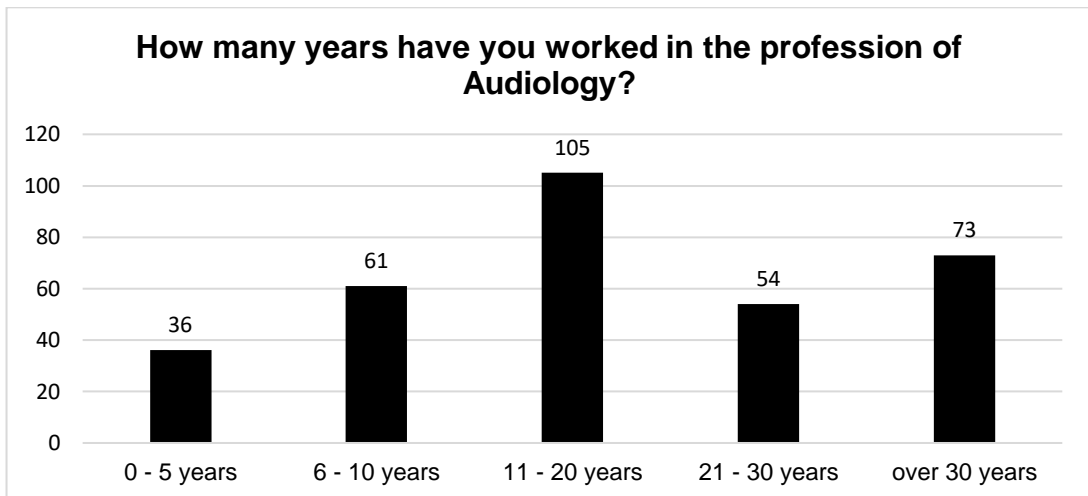
Figure 38 – Years worked in the profession of audiology

Question 6 – At what age did you commence working in the profession of audiology?

There is a spread of respondents across the different age ranges (figure 39). Most respondents (106) indicated that they were between the ages of 20 and 24 years when they joined the profession of audiology. Eighty of the respondents started in the profession at the age of 19 or younger.

At what age did you commence working in the profession of Audiology?
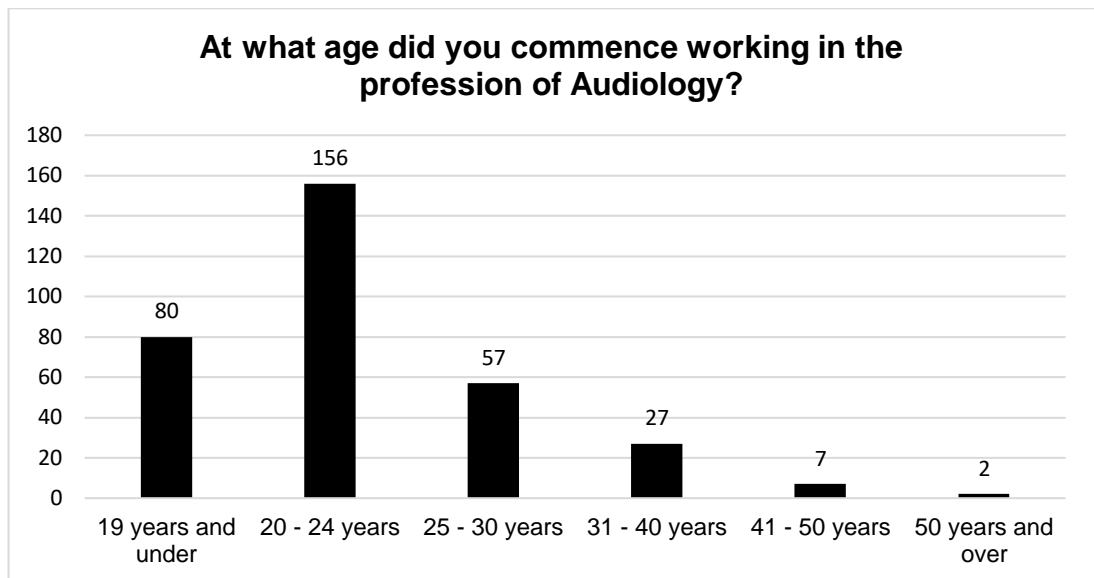
Figure 39 – Age of respondents when they commenced working in the profession of audiology

6.6.2 The experience of becoming an audiology professional

a) *How and why, they chose audiology as a career? (Q7 – Q11)*

This section of the survey (**Questions 7 to 11**) focuses on the experience of becoming an audiology professional, including why they chose audiology as a career and the specific pathway taken.

Question 7 – How did you learn about the profession of audiology? (Please select all that apply)

A range of responses were recorded to this question with 310 respondents selecting one option, 18 selecting two and one selecting three options from the list. Of the responses, 88 listed the experience of accessing audiological services themselves (34) or having a friend or family member that did (54) (figure 40). Most of the respondents (185) indicated '*other*' with a summary provided in question 7a.
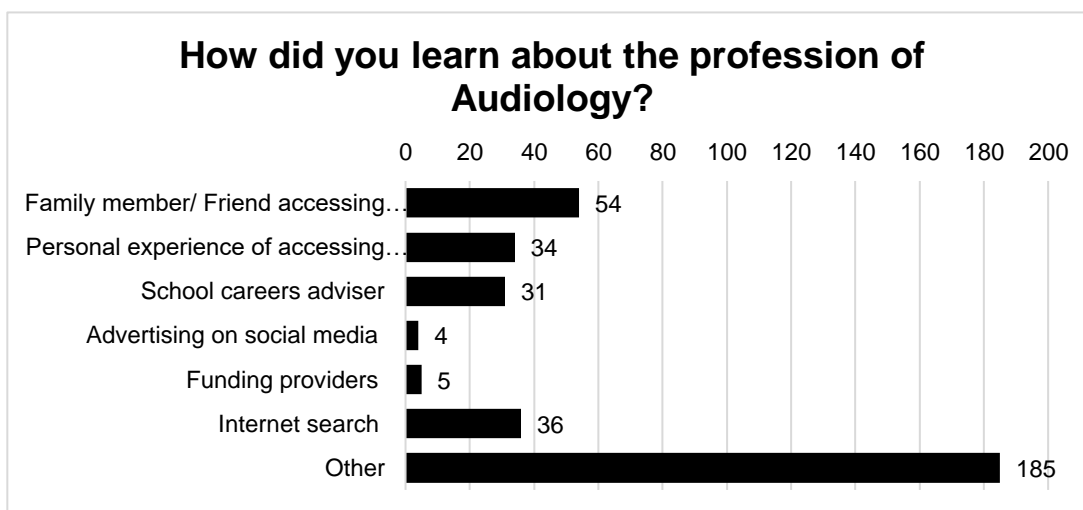
Figure 40 – How did you learn about the profession of audiology?

7a. If you selected Other, please specify:

The 185 respondents provided a range of answers, and the responses were grouped in 12 codes across the answers provided. Many respondents (76) indicated that they learned about the profession through advertisements for jobs or trainee posts. This was followed by 44 responses identifying universities as a source through careers advice as well as promotion of courses. Table 36 provides the code identified with number of responses and one example. Further example quotes can be found in appendix 16.

Table 36 – *Other* ways of learning about the profession

Code	Number of responses	Example quotes
Advertising of jobs or trainee posts	76	*"Advert in local paper for student audiology technician"*
University careers advice	44	*Careers advice booklet at university- my friend and I started at "A" found audiology, thought it sounded interesting and have both trained as audiologists"*
Friends/Family who knew about audiology	16	*"Father was working in audiology"*
Work experience	15	*"Worked for Action on hearing loss"*
Speech Language Therapy link	7	*"Applied for speech & language BSc and was offered audiology as an alternative"*
Personal experience (not accessing services)	7	*"I met someone who was profoundly deaf whilst on holiday at 15 years old"*

Retraining	5	*"Adult retraining information in a careers library"*
School careers advisor	4	*"School career office information"*
Opticians link	4	*"I already worked in optics and audiology was part of that business"*
Placement experience	3	*"Started as a student medical physics and Physiological measurement technician"*
Research/study	3	*"Whilst working as a research assistant at the University of Southampton"*
No knowledge at all	1	*"Random....did not know what I was applying for when first applied"*

Question 8 – Why did you consider audiology?

This question provided respondents with the opportunity to explain why they considered audiology as a career/job. Table 37 provides a summary of the themes identified across the responses, the number of responses with some further example answers provided in the appendix 16. Responses often covered more than one theme.

"I like the mix of science and patient-facing skills (**art vs science**)*. I have seen the impact communication impairment can have* (**awareness of hearing loss**)*".*

"I was unhappy with first choice of career (**career change**)*. I wanted to be a speech therapist but did not have good enough A levels and they were by then 10yrs out of date. Audiology was suggested as an alternative* (**fell into it**) *and at that time it was a paid training in a hospital with block release at college. This meant I could retrain whilst still paying rent etc* (**personal circumstances**)*. I had already been to university so funding further study would have been very difficult.* (**funding**)*"*

The theme with the most responses, **"fell into it"** refers to the accidental joining of the profession (79) and not by design. The accidental joining is often linked to gaining a trainee post in the field with funding and then learning about the profession during the training process.

The next theme with 61 responses refers to the mix of "**art vs science**" which forms the basis of the profession combining the experience of hearing loss and rehabilitation with the science of hearing assessment and technology. "**Helping others**" and working in a **"healthcare profession"** also featured as themes. **"Funding"** appears

to have played a role in the decision to study audiology as the historical training pathways were often linked to trainee posts or subsidised study on university degree courses to increase the number of professionals.

Table 37 – Why respondents considered audiology

Code	Number of responses	Example quotes
Fell into it	79	*"I always say audiology found me. I did not know what an audiologist was until the job advert for the training post in the early 1990s. It provided an opportunity to provide vocational training."*
Art vs Science	61	*"Great mixture of use of scientific skills and hands on caring for others."*
Helping others	57	*"Wanted to do a job helping people"*
Healthcare profession	54	*"Wanted a profession that was in the health sector and specific. Audiology looked interesting"*
Personal experience	41	*"I took my grandmother to an audiology appointment and thought it seemed an interesting job"*
Funding	38	*"Because the training was funded!"*
Career prospects	33	*"Better career prospects"*
Personal circumstances	22	*Hours were better for childcare"*
Awareness of hearing loss	19	*"My mother worked as support teacher for hearing impaired children when I was growing up"*
Career change	17	*"I was a nurse and wanted to change careers"*
Work experience	8	*"Pre-nursing course led to work experience in many areas of the hospital, preferred audiology"*
Placement experience	6	*"I started out on a course to become a Medical Physics and Physiological Technician of which audiology was one placement. I enjoyed being able to talk to people."*
Science	6	*It is a great mixture of different sciences."*
Research	3	*"I was interested in being a researcher looking at hearing loss and language/literacy"*
Careers advisor	1	*"Careers adviser felt I had the right skills and mindset"*
Salary	1	*"Money"*

Question 9 – Is audiology your first career/job?

The respondents were asked to indicate if audiology is their first career or job and 203 indicated '*yes'* and 126 '*no'* (table 38).

Table 38 – Audiology as a first career or job

Is Audiology your first career/job?	Number of responses
Yes	203
No	126

Questions 10 and 11 applies to the 126 respondents that indicated that audiology is not their first career or job.

Question 10 – What did you do before joining the profession of audiology? List any previous degree(s) and/or profession(s) here.

Table 39 provides an overview of the different fields listed by participants as degree(s) and/or professions before they joined the audiology profession with further example quotes in appendix 16. A broad range of fields were listed from *"Finance/Business/Insurance", "Accountancy", "Engineering", "Events and Hospitality services"* to *"Medicine", "Veterinary Science"* and even" Toxic *waste disposal"*. Some respondents listed fields usually associated with audiology such as acoustics, psychology, physics, and speech therapy. Eight respondents came via the optician route which is typical of the private sector in the United Kingdom currently as both hearing and vision are often linked in the same high street shop. Those hearing aid dispenser trainees who were opticians before retraining, as part of business expansion, can then offer both services once qualified.

Table 39 – Previous degree(s) and/or professions

Field	Number of responses	Examples
Management/manager	13	*"BSc management, NHS manager"*
Finance/ Business/insurance	12	*"Financial services"*
Administration	12	*"Office administration and accounts, database clerk, customer service advisor"*
Biology	9	*"BSc (Hons) Biology. Most previous work was in retail/customer service."*
Engineering	9	*"BSc. in Electronics. Post Grad Diploma in Radio Systems Engineering."*
Nursing/AHP	9	*"Nursing"*
Education	8	*"BSc Environmental Science PGCE Secondary Science Education"*
Optics	8	*"Dispensing Optician."*
Technician	7	*"BSc in physiology. Worked as a lab technician during school holidays and after graduating."*
Psychology	6	*"Degree in Psychology in Education, worked as a domiciliary care worker"*
Accountancy	6	*"Accountant assistant"*
Health and Social care	7	*"Worked in a residential home with adults with learning disabilities for a year - was employed by social services following placement for Duke of Edinburgh award"*
Chemistry	4	*"Biochemistry"*
Neuroscience/neurophysiology	4	*"Initially trained in Neurophysiology while taking the BTEC OND in MPPM"*
Army/ Military	4	*"Royal Air Force Engineer with the Red Arrows"*
Sales	4	*"Sales"*
Events and hospitality services	3	*"I was a chef"*
Nanny	3	*"Managed a bar and worked overseas as a nanny"*
Charity	3	*"Grants Adviser for medical charity"*
Acoustics	2	*"Acoustics Lab Assistant, Research Physicist"*
Electronics	2	*"BSc. in Electronics, Post Grad Diploma in Radio Systems Engineering."*
Environmental science	2	*"BSc Environmental Science, PGCE Secondary Science Education"*

Physics	2	*"My previous job was as a legal administrator. My undergraduate degree was in physics."*
Agriculture	2	*"NCA agriculture worked as civil servant for MAFF now DEFRA"*
Speech therapy	2	*"I began practising SLT and audiology simultaneously (not in the UK)"*
Pharmacology	2	*"Pharmacy Dispenser"*
Research	2	*"Research scientist"*
Sport science	2	*"Certificate of Higher Education in Sport and PE. Level 4."*
Craft/Trade	2	*"Joiner - Advanced Craft City and Guilds. Bolton Metropolitan College. Conservatory erector London Area. Double Glazing Sales Rep. Part time bar staff."*
Counselling	2	*"Social care and counselling"*
Medicine	1	*"ENT MB BCH BAO"*
Veterinary science	1	*"Veterinary Science"*
Media/ Broadcasting	1	*"BTec HND Media Studies. I was working freelance in the broadcast industry."*
Anatomy	1	*"Human anatomy degree and worked in retail"*
Musician	1	*"Freelance musician"*
Genetics	1	*"Genetics and research"*
English language course	1	*"I did a CELTA course and worked as a English language classroom assistant."*
Toxic waste disposal	1	*"Toxic waste disposal specialist"*

Question 11 – Why did you consider changing to audiology?

Reasons provided by the 126 respondents who changed careers to join the audiology profession include similar codes to those as identified in question 8. Most respondents identified the change to audiology as an opportunity to improve *"career prospects"* with some examples stating the wish to have a career and not just a job (*"I wanted a career rather than a job").*

The availability of training posts linked to *"funding"* and *"work-based learning"* was also a factor in changing to audiology. Table 40 provides an overview of the codes identified in the responses as well as number of responses and an example quote. Further example quotes are provided in appendix 16.

Table 40 – Why respondents considered changing to audiology

Code	Number of respondents	Example quotes
Career prospects	23	*"Audiology represented a more interesting field with more career options"*
Career change	21	*"Career change"*
Personal circumstances	19	*"Childcare"*
Working with people	15	*"I didn't want to work in a lab and wanted contact with patients"*
Helping others	12	*"I wanted a career in a caring profession and was keen to train and learn something new."*
Working in healthcare	10	*"Wanted to work in healthcare".*
By accident	9	*"Opportunity presented itself."*
Personal experience	8	*"As a patient of audiology, myself for over 35 years, I wanted to experience what it was like in delivering the service."*
Work-based learning	6	*"… A student post became available locally and I applied."*
Salary	5	*'Money"*
Funding	4	*"… Audiology then was a paid training in hospital with block release to study, this made it possible to retrain as a mature student."*
Redundancy	4	*"Made redundant"*
Employment	3	*"There were no jobs available locally in Neurophysiology, but a post was available in audiology."*

Move away from sales	2	*"I was becoming more and more 'sales' focussed and less able to use my skills to provide benefit to others."*
Work experience	1	*"A week's work experience. I found it fascinating"*

Reflecting on the survey design it became clear during the analysis that the order of questions 8 – 11 possibly resulted in some duplication, especially questions 8 and 11.

b) Which route(s) they followed in becoming an audiology professional? (Q12 – Q13)

Questions 12 and 13 focused on the pathway taken to become an audiology professional. A pathway can consist of different courses.

Question 12 – Which United Kingdom audiology training pathways(s) did you complete? Please select all that apply.

Question 12 provided a list of courses that survey respondents could select from as well as an option to add others. Analysis began by reviewing the options selected as well as any provided in question 12a.The training pathway completed by most respondents is the British Association of Audiology Technicians (BAAT) exams parts 1 and 2 with 109 for each exam (218 in total). The BAAT exams were often completed in combination with the BTEC NC & HNC in Medial Physics & Physiological Measurements which is a possible explanation for the 93 respondents that chose this option as well. The BSc (Hons) Audiology degree was the second highest course completed with 65 respondents selecting this option. It should be noted that this question focused on United Kingdom pathways, so it is likely that some of the 329 respondents completed both an international and at least one United Kingdom pathway. Of the 329 responses, 18 completed international audiology pathways. Figure 41 provides a summary of the different options selected by respondents.

United Kingdom Audiology training courses completed

Course	Value
SAT exam Part 1	0
SAT exam Part 2	0
ATG exam Part 1	8
ATG exam Part 2	8
BAAT Part 1	109
BAAT Part 2	109
BTEC NC & HNC in Medial Physics & Physiological Measurements	93
Hearing Aid Council exams	36
Diploma in Hearing Aid Audiology	13
Foundation degree in Hearing Aid Audiology	17
Aptitude test in in Hearing Aid Audiology	19
Certificate in Hearing Therapy	4
BSc (Hons) Audiology	65
BSc (Hons) Healthcare science (Audiology) PTP	18
Graduate Diploma in Audiology	5
Postgraduate Diploma in Audiology with CCC	3
Postgraduate Diploma in Audiology without CCC	4
MSc in Audiology with CCC	17
MSc in Audiology with CAC	35
MSc in Audiology With HTS	5
MSc in Audiology without clinical placement	24
MSc Clinical Science STP	12

Figure 41 – Overview of UK courses selected by respondents

Of the 329 respondents, 235 completed one pathway to work in the profession and 71 completed more than one pathway. The number of pathways were determined by considering the various combination of courses to obtain a recognised qualification to work in the profession. In some instances, this involved completing three different

qualifications, for example BAAT parts 1 and 2 together with the BTEC NC & HNC in Medial Physics & Physiological Measurements which then counted as one pathway. Of the 329 respondents, 23 respondents completed courses not listed in question 12. Figure 42 provides an overview of the number of pathways selected based on the options provided in the question.
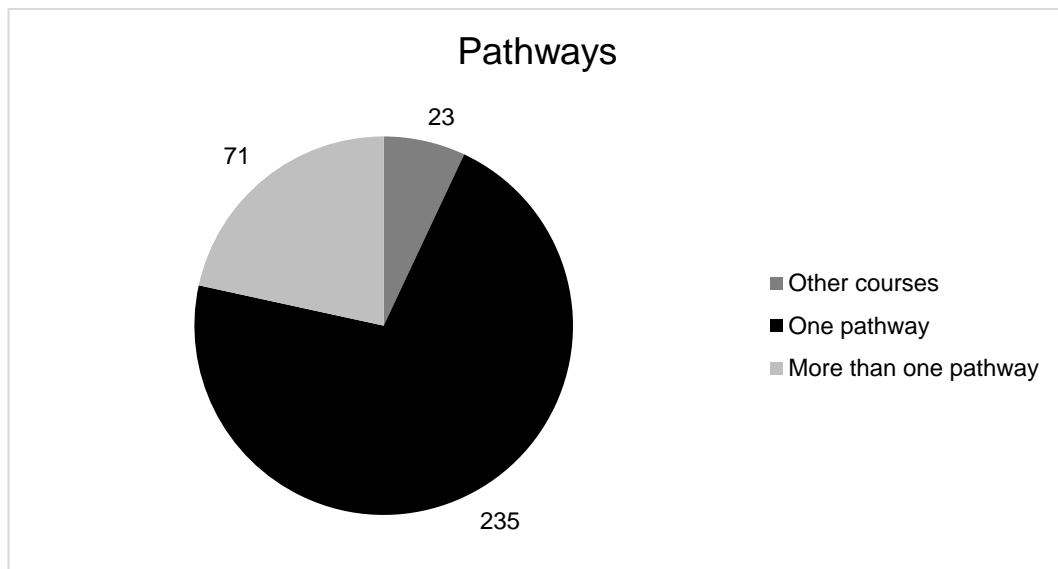
Figure 42 – Number of pathways taken by the respondents

Figure 43 provides an overview of the number of individual courses taken by the 71 respondents that completed more than one pathway.
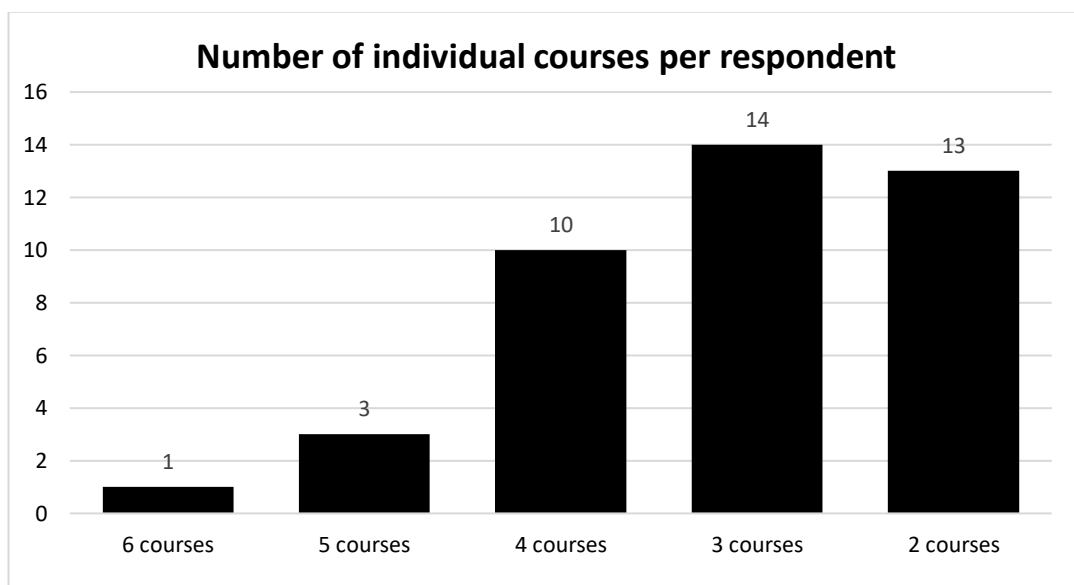
Figure 43 – Number of individual courses taken by respondents

Responses from the 71 respondents were then analysed to determine the relationship between the number of pathways and the professional titles linked to the different pathways. Figure 44 provides an overview.

Number of pathways linked to professional titles

Professional title	Count
Audiologist (2)	14
Audiologist (2), Hearing Aid Dispenser	12
Audiologist (2), Hearing Aid Dispenser, Hearing Therapist	1
Audiologist, Clinical Scientist	5
Audiologist, Hearing Aid Dispenser	13
Audiologist, Hearing Aid Dispenser, Clinical Scientist	1
Audiologist, Hearing Therapist	1
Hearing Aid Dispenser, Clinical Scientist	2
Hearing Aid Dispenser, Hearing Therapist	1

Figure 44 – Number of pathways linked to professional titles

Where the title of *Audiologist (2)* is listed (27 respondents), it refers to two pathways leading to the professional title of Audiologist. Several combinations occur but in essence it is the combination of professional body examinations (e.g., BAAT parts 1 and 2) **or** other (e.g., Aptitude test in Hearing Aid Audiology) **and** undergraduate pathways (e.g., BSc (Hons) Audiology) **or** postgraduate pathways (e.g., MSc in Audiology with or without CCC) as well as undergraduate and postgraduate pathways. Table 41 provides a summary of the 27 respondents.

Table 41 – Summary of pathways with more than one Audiologist specific qualification

	Number of respondents	Audiologist (vocational)		Hearing Aid Dispenser		Audiologist (undergraduate)		Hearing Therapist	Audiologist (if combined with undergraduate and/or vocational)		Postgraduate Audiologist
1	1	BAAT Parts 1 & 2	BTEC NC & HNC		Aptitude test in Hearing Aid Audiology	BSc (Hons) Audiology		Certificate in Hearing Therapy			
2	5	BAAT Parts 1 & 2	BTEC NC & HNC	Hearing Aid Council exams					MSc in Audiology without clinical placement		
3	1	BAAT Parts 1 & 2	BTEC NC & HNC	Hearing Aid Council exams							MSc in Audiology with CCC
4	1	BAAT Parts 1 & 2	BTEC NC & HNC		Aptitude test in Hearing Aid Audiology		BSc (Hons) Healthcare science (Audiology) PTP				
5	2	BAAT Parts 1 & 2		Hearing Aid Council exams					MSc in Audiology without clinical placement		
6	1			Hearing Aid Council exams		BSc (Hons) Audiology				Postgraduate Diploma in Audiology without CCC	
7	1			Hearing Aid Council exams		BSc (Hons) Audiology			MSc in Audiology without clinical placement		
8	1				Aptitude test in Hearing Aid Audiology	BSc (Hons) Audiology			MSc in Audiology without clinical placement		
9	2	BAAT Parts 1 & 2	BTEC NC & HNC							Postgraduate Diploma in Audiology without CCC	
10	3	BAAT Parts 1 & 2	BTEC NC & HNC						MSc in Audiology without clinical placement		
11	1	BAAT Parts 1 & 2	BTEC NC & HNC								MSc in Audiology with CCC

						BSc (Hons) Audiology	BSc (Hons) Healthcare science (Audiology) PTP		MSc in Audiology without clinical placement	Postgraduate Diploma in Audiology without CCC	
12	1	BAAT Parts 1 & 2	BTEC NC & HNC				BSc (Hons) Healthcare science (Audiology) PTP				
13	1	BAAT Parts 1 & 2					BSc (Hons) Healthcare science (Audiology) PTP				
14	1	BAAT Parts 1 & 2							MSc in Audiology without clinical placement		
15	1	BAAT Parts 1 & 2								Postgraduate Diploma in Audiology without CCC	
16	2					BSc (Hons) Audiology			MSc in Audiology without clinical placement		
17	1	BAAT Parts 1 & 2	BTEC NC & HNC			BSc (Hons) Audiology					
18	1		BTEC NC & HNC						MSc in Audiology without clinical placement		

Question 12 a – If your pathway is not listed above or it was completed outside of the United Kingdom, please provide information below (degree and institution). This also applies to any additional audiology pathways completed outside of the United Kingdom.

This question applies to 56 respondents who provided pathways not listed or completed outside of the United Kingdom. The following tables provide summaries of the different courses provided, grouped according to type. Further examples can be found in appendix 16.

Table 42 provides an overview of the spread of international audiology courses (18) completed that include Australia, New Zealand, South Africa, India, Brazil, and Portugal.

Table 42 – International audiology pathways

International courses	Number of responses	Examples
Australia	2	*"Australia: masters of clinical audiology"*
Brazil	1	*"BSc in speech and language therapy/ audiology - UFMG Brazil"*
South Africa	10	*"I qualified in South Africa - a 4-year degree: Bachelor of Communication Pathology with Specialization in audiology at the University of Pretoria"*
Portugal	1	*"Graduate diploma in audiology at Coimbra Health School, Portugal."*
India	3	*"Master of Audiology and Speech Language Pathology (Maharashtra University of Health Sciences, Nashik)"*
New Zealand	1	*"Master of Audiology in New Zealand"*

Table 43 provides a summary of the 26 responses listing **other** United Kingdom Audiology pathways not included in the list. One respondent completed the audiovestibular medicine training pathway that is available to medical graduates to become an audiovestibular physician.

Table 43 – Other UK audiology pathways

Other UK audiology pathways	Number of responses	Examples
PG Diploma in Hearing therapy	2	*"Postgraduate Diploma in Hearing Therapy at Bristol University"*
BSA exams	5	*"BSA part 1 and 2"*
Clinical physiology	8	*"BSc (Hons) Clinical Physiology with BAAT part 1 and 2"*
Audiology Top up degree	2	*"Foundation Degree in Audiology, then top-up degree in hearing science"*
Diploma	2	*"HE Diploma in Audiology and BAAT parts 1 and 2. Equivalence to HNC MPPM but a different qualification"*
MSc Technical Audiology	2	*"MSc in Technical Audiology, University college London (part time whist working at a senior level in audiology)"*
Audiovestibular medicine	1	*"Audiovestibular Medicine training programme"*
Other	4	*"NVQ level 3 and HNC in Medical Physics and Physiological Measurements"*

Table 44 provides a summary of courses that 15 respondents provided that range from further education in audiology, typically post registration courses in audiology available at postgraduate level. Of the 15, four completed the Doctor of Audiology or AUD that is recognised in the United States. A further five respondents indicated qualifications such as health science and social care leadership.

Table 44 – Other courses

Other	Number of responses	Example quotes
Further education in audiology	6	*"MSc Advanced Audiology"*
Doctor of Audiology	4	*"AuD - Doctor of Audiology University of Florida"*
Other	5	*"I also have an MSc in Social Care Leadership which seemed a better fit for my role as manager"*

Question 13 – Why did you choose the specific pathway(s) selected above? Please answer for each pathway completed.

All 329 respondents provided an answer to this question and responses range from it being the ***"only option"*** at the time *("That was the only pathway available to me at the time", "It was the route into audiology available at the time")* to opportunities linked

with **"employment"** *("I applied for a dept student audiology post that was advertised and this was the qualification route involved")* and being **"funded"** *("NHS bursary available for BSc").* For some it was a **"preferred"** option *("Suited my age and qualifications at the time", "Could be fitted in around my family commitments")* or a way to make a **"career change"** *("I already had a science degree when I was considering what to do next", "I had a degree in Chemical Physics but didn't want to work in research so was eligible for the MSc").*

The **"awareness"** of different pathways also played a role in the decision *("BSc Hons Audiology seemed the only option for me to become an audiologist at the time I was entering the profession.", "Degree was only real option available to me at the time").* For some respondents it was the option available in the country of residence at the time of study **("international")** and for others it was the fact that the end qualification was a **"degree"** *("I didn't have a degree and wanted to get one to qualify. I wanted to go to university as an undergraduate.")* or that it was the **"faster route"** *("As I had already completed a BSc, so it was a faster route into audiology.").* Table 45 provides a summary of responses linked to one code as well as responses with a combination of codes where the codes listed above are combined with each other and/or new codes such as **"sector change", "career progression"** and **"specialist".** Further example quotes can be found in appendix 16.

Table 45 – Summary of respondents' reasons for selecting a specific course

Code	Number of responses	Example quotes
Only option	87	*"Only one available at the time."*
Employment	41	*"I was recruited as a Student Audiologist by an acute NHS Trust with that pathway in mind."*
Preferred	40	*"I wanted to have a degree qualification and experience, as well as to become a qualified audiologist."*
Awareness	39	*"At the time I thought the only pathway to take to become an audiologist was through the university degree"*
Career change	15	*"I had a degree in Chemical Physics but didn't want to work in research so was eligible for the MSc"*
Funded	17	*"NHS bursary available for BSc"*
International	13	*"In Australia at that time, you could only do a masters to be able to work as an audiologist"*
Faster route	12	*"As I had already completed a BSc, so it was a faster route into audiology."*
Degree	5	*"I didn't have a degree and wanted to get one in order to qualify. I wanted to go to university as an undergraduate."*
Awareness, Specialist	8	*"BSc: that was most suitable pathway at the time. MSc: to increase existing knowledge"*
Only option, Degree	8	*"BAAT and HNC MPPM was standard training. MSc was funded personally to consolidate training into a formal qualification"*
Only option, Sector change	7	*"It was the only training option at the time of initial training. Took the aptitude test to register with HCPC and work in the private sector"*
Only option, Specialist	6	*"BAAT only option to qualify. PG qualification to refresh theoretical knowledge and to keep up to date to support junior staff and students"*
Employment, Degree	6	*"1) entry qualification funded by department 2) transition to graduate audiology"*
Employment, Career progression	4	*"BAAT was available in my local hospital. I wanted to widen my knowledge and skills so did the MSc & CAC."*
Preferred, Sector change	3	*"To be able to work in the NHS and the private sector"*

Funded, Only option	2	*"It was the only one available at the time and was fully funded"*
Awareness, Career progression	2	*"The undergraduate degree was the main route to become a qualified audiologist, the sandwich style course delivery suited my learning style. I wanted to continue with career and academic profession following starting my career, so I selected an MSc programme with full distance learning delivery."*
International, Sector change	2	*"Bachelor's degree to enter profession. Aptitude test to practice privately in UK."*
Preferred, Faster route	2	*"Most convenient option at time, quickest route to professional qualification allowing practice"*
Sector change, Specialist	1	*"Hearing Therapy as previously explained, RHAD as a career development and to provide more options to my patients"*
Career change, Funded	1	*"Allowed entry without previous audiology experience and was at post-graduate level. Fully funded and salaried training as I already had the financial commitments that come with being an adult at the stage of life I was."*
Faster route, Career change	1	*"It was the most reliable and quickest way to change careers. It gave me the experience to do some research but also complete some clinical practice hours."*
Faster route, Specialist	1	*"My undergraduate degree allowed me to progress to postgraduate study in audiology. Once qualified I chose to undertake further training in the form of the STP."*
Funded, Career change	1	*"It was being funded in Scotland and the Aptitude Test was a requirement of me becoming a Programme Leader for education purposes."*
Funded, Career progression	1	*"The degree was free at the time, I liked it had a year in work so I would get some experience and earn some money. The STP I did to jump up the banding quicker, it was also free, and I got paid to learn."*
Funded, Preferred	1	*"BSc- Funding MSc- work based part time study"*
International, Career progression	2	*"B Communication Pathology: because I originally was interested in speech therapy. MSc Advanced Audiology: to allow more career options internationally"*
Employment, Career progression, Sector change	1	*"Was employed initially as audiology technician while enrolled on MSc in Audiology. During time as technician completed British Society of Audiology technicians' theory and practical exams (equivalent to BAAT). When M.Sc. completed was upgraded to Audiological Scientist. Wished to be involved in private practice. When NHS audiologists were allowed, sat HAC exams."*

6.6.3 The experience of being an audiology professional

a) *Which work context they are employed in? (Q14 – Q15)*

Questions 14 and 15 considers the sectors respondents are employed in as well as their motivation for working in those sectors.

Question 14 – Audiology professionals often work in more than one sector. Which sector(s)describes employment since completing your qualification? Select all that apply.

Figure 45 provides an overview of the respondents' sectors of employment since qualification. Of the 329 respondents, 298 indicated that they have worked in the NHS and 113 that they have worked in the private sector. Respondents were asked to select all that apply which explains the overall number of responses (484).
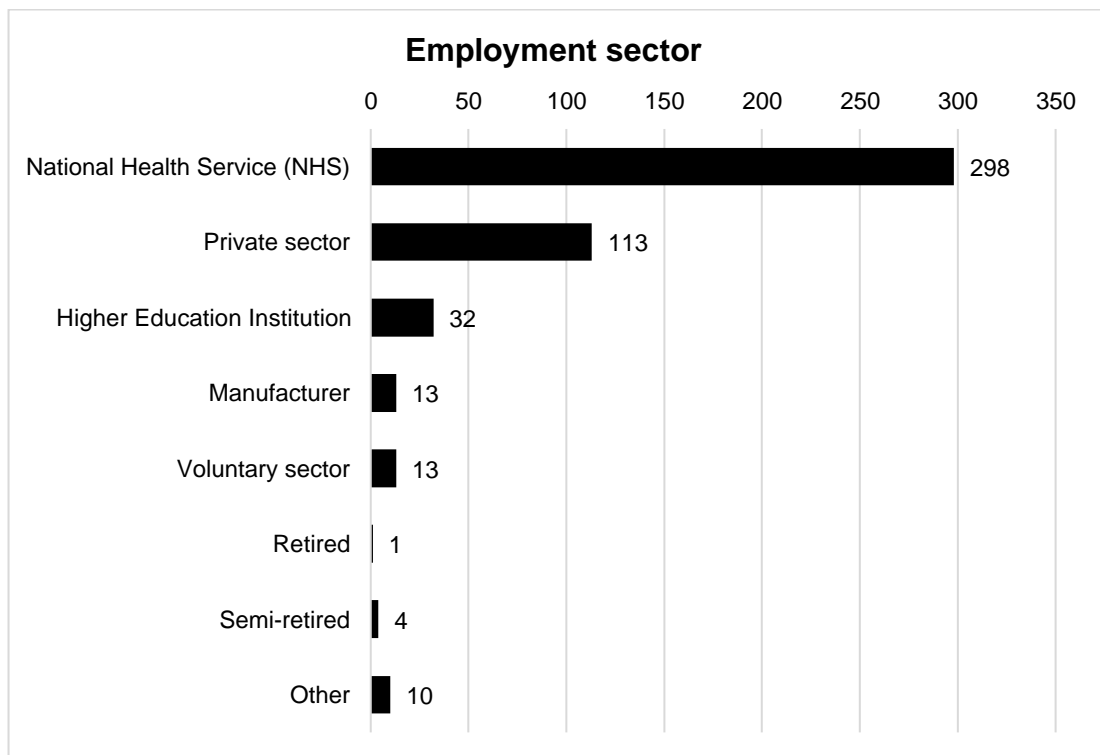
Figure 45 – Overview of employment sector

The number of respondents working in more than one sector is 214 with 115 working in only one sector (table 46).

Table 46 – Number of employment sectors per respondent

Number of employment sectors	Number of respondents
One sector	214
More than one sector	115

Of the 214 respondents indicating that they have only worked in one sector, 188 were employed by the National Health service (NHS) and 25 in the private sector and one respondent have only worked in a Higher Education Institution (HEI) (figure 46).
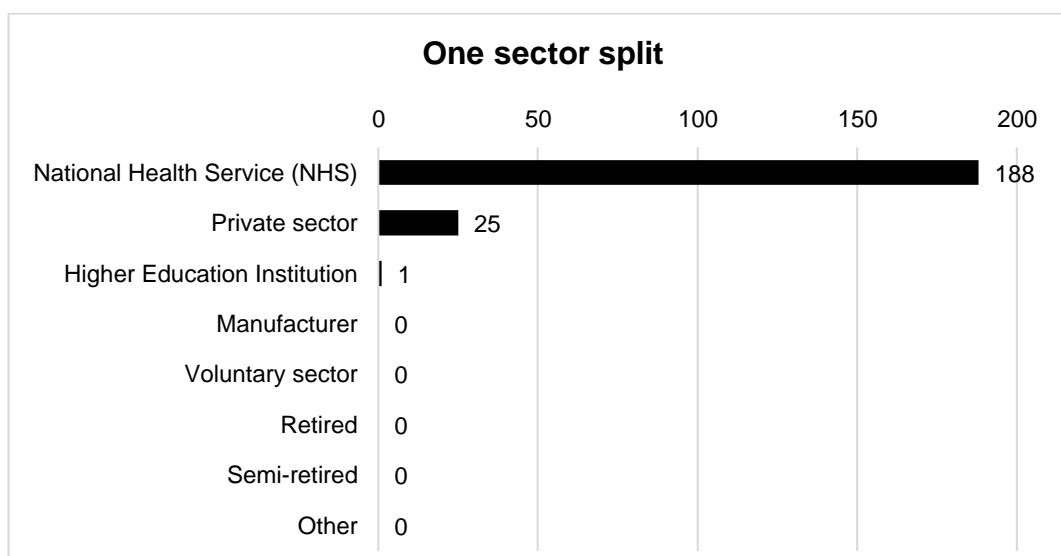
Figure 46 – One sector split

Of the 115 respondents that indicated they worked in more than one sector of employment, 83 indicated that they have worked in both the NHS and the private sector. Of the remaining 32 responses, 27 worked in the NHS but not the private sector and five worked in the private sector but not the NHS (table 47).

Table 47 – NHS and private sector combination

NHS and private sector combinations	Number of responses
NHS **and** private sector	83
NHS **not** private sector	27
Private sector **not** NHS	5

Of the 329 respondents, 10 selected '*other*' as an option in question 14 and the responses are listed in table 48 below.

Table 48 – 'Other' sectors of employment

Civil service
Education and training
Government

Ministry of Defence
Private locum audiologist
Private sector also NHS accredited provider. Also now sit on BSHAA Council
Professional body
Social Enterprise.
The hearing lab
Worked in a government hospital in South Africa too (department of health)

Three of the 329 respondents provided responses without selecting '*other*' in the list. This includes "*Australian public service"*, "*Dept of health"* and *"Have also worked in manufacturing and hotel industry while still in audiology".* Some of the options above describe voluntary roles such as professional body and BSHAA Council.

Question 15 – What motivated you to seek employment in the sector(s) selected?

The answers from question 15 were ordered according to the different sectors of work and then reviewed for themes. Table 49 provides a summary of the different work contexts and all combinations.

Table 49 – Different work contexts and combinations

Work context		
NHS	Private	NHS and Private
NHS and Manufacturer	Private and manufacturer	
NHS and HEI	Private and HEI	
NHS and civil service	Private and Ministry of Defence	
NHS and voluntary	Private and Professional Body	
NHS and social enterprise		
NHS and semi-retired		

Some of the respondents indicated a movement between one combination, that of the NHS and private sector and provided a reason for moving between the two contexts. Table 50 captures the direction of movement.

Table 50 – Direction of movement between the NHS and Private sector

Direction of movement
Private to NHS
NHS to Private

Tables 51 and 52 provide an overview of the context (NHS or Private sector) and relevant combinations in terms of number of responses, codes, and examples. The overarching code identified in those respondents choosing to work in the NHS is that of being able to provide free access to hearing aids. Several respondents stated that they prefer not having to sell hearing aids. Further examples of quotes can be found in appendix 16.

Table 51 – Responses related to the NHS and combinations with other contexts

Work context	Number of responses	Code	Examples
NHS	44	NHS values	*"Bloody love the NHS and all that it stands for!"*
	43	Not selling	*"I wanted to work in NHS, hospital based. I would never want to sell things."*
	6	Job security and not selling	*"Job security and offering a service which was free at the point of delivery"*
	7	Variety and not selling	*"I like diagnostics and also like working in hospitals. Large variety of patients, no pressure on selling aids"*
	1	Variety, job security and not selling	*"Variety of work, stable job, not having to sell hearing aids and services."*
	1	Variety, job security, not selling and career progression	*"I wanted to work in paediatrics and have a secure job with access to training. Did not like sales aspect of private work."*
	1	Not selling, career progression and in-service training	*"South Africa- to complete my Community Service and gain valuable exposure in a rural setting, challenging myself. NHS- very fulfilling, good work-life balance. Focus is on patient care rather than selling equipment/hearing aids. Excellent career progression opportunities- Currently on the STP- via the Inservice route"*
	2	Personal	*"Mid-life crisis"*
NHS and Manufacturer	2	Career progression	*"Slow progression in NHS"*
NHS and HEI	1	Teaching and research	*"To develop extended skills in teaching and research"*
	3	Teaching	*"I enjoy teaching people. NHS is all I know!"*
	1	Student supervision	*"Always worked for NHS. Involved with Supervision for Students, so trained to become Clinical Placement Assessor"*
	2	Personal opportunities	*"Seemed like a good idea at the time"*
	1	Clinical, teaching and research	*"Started in NHS. Whilst doing MSc I became interested in research so did PhD and went on to teach at a HEI (10 years out of clinic in total). Now back in NHS clinic as missed patient contact and wanted a more frontline role."*

Work context	Number of responses	Code	Examples
	1	Clinical and teaching	*"I worked in the NHS as part of the STP. I always enjoyed teaching which led me to the role in education."*
	2	Clinical and research	*"I love working in the NHS. I also wanted to do some research, so I also work in an HEI."*
NHS and civil service	1	Variety	*"Interesting roles"*
NHS and voluntary	1	Building services in Africa	*"I enjoy working for the NHS and loved the challenge of building services when volunteering in Africa"*
NHS and social enterprise	1	Change of service delivery model	*"I work for an organisation that transitioned to employment within the NHS to employment to a company that provides a service to the NHS."*
NHS and semi-retired	1	Retired NHS and private ENT	*"Retired on ill health from NHS but continued Private ENT outpatient support services."*

Table 52 – Responses related to the Private sector and combinations with other contexts

Work context	Number of responses	Code	Examples
Private	6	General responses	*"Main one available at the time"*
	1	Time and internal transfers	*"Ability to transfer within a major Hearing care company with partner moving jobs around the country. Also, like that I am able to spend more time with patients and able to give them more choice when it comes to choosing a solution for their hearing loss"*
	1	Technology and salary	*"Available technology, salary package and benefits"*
	1	Technology	*"Best choice of technology & ability to offer the best level of care"*
	1	Salary, job security and personal	*"Pay. Benefits. Good decision for family."*
	3	Salary	*"Money"*
	1	Job availability	*"Convenience of the jobs available."*
	1	Funded training and job security	*"This sector was responsible for financing my course and is a secure source of employment."*

	4	Funded training	*"Employer paid for training"*
	4	Family/own business	*"No possibility of career advancement in my department and therefore decided to join family business."*
	1	Autonomy	*"The autonomy"*
Private and Professional Body	1	Personal development and own business	*"I wanted to progress in a career and was offered opportunity in audiology business"*
Private and Ministry of Defence	1	Personal development	*"Personal development"*
Private and manufacturer	2	Own business	*I have always been self-employed, and wished to continue to be so"*
Private and HEI	1	Teaching and research	*"University placement provider offered me a job upon graduation. Had no issues with private sector as they are an ethical and dedicated company. Moved to higher education to complete a PhD and gain teaching experience."*

Responses from respondents who chose to work in the private sector and/or combined with other contexts range from having their own businesses as well as the opportunity to transfer within the UK as well as internationally. Some also stated that working in the private sector gave them more time with patients and access to a wider range of hearing aid technology. Table 53 provides responses from those respondents who worked in both the NHS and the private sector. Codes identified in this group include the variety that working in both contexts provide as well as the opportunity to top up income. Further example quotes can be found in appendix 16.

Table 53 – Responses related to the combination between NHS and the Private sector

Work context	Number of responses	Code	Examples
NHS and Private	5	Supplement income/ salary	*""NHS to start my career. Private work on top of NHS to earn extra money"*
	3	Variety and salary	*"NHS to work with children and Private to "top up" income".*
	5	Variety	*"Wanted to specialise in paediatrics and NHS had good opportunities for that"*
	2	Variety and personal development	*"Variety, and career growth"*
	3	Funded training	*"Sponsored by health service"*
	5	Personal	*"Available in location suitable to me"*
	7	Job availability	*"Availability of work"*
	3	Mix of services	*"I wanted to do a combination and be able to see what technology is available in each. I am a specialist in balance and there was little of this work offered privately so I also do this."*
	3	ENT support not selling	*"Wanted to work in the NHS and opportunity arose to do some private work for the Consultants (very part-time), so did both concurrently"*
	1	ENT and own business	*"Employed by NHS from student. Many years later worked with ENT consultants in the private sector testing as well as NHS as I was part time, and my children were older. Then in addition I started on my own selling hearing aids and micro suction."*
	1	Any qualified provider	*"I have always wanted to work for the NHS. My current role is in a private sector that has been commissioned to provide NHS services"*

Table 54 provides information about why respondents decided to move from one sector to another, specifically between the NHS and the private sector. Some respondents described moving from the private sector to the NHS for more variety beyond hearing care and not having

to sell hearing aids. The move in the opposite direction, NHS to private sector, was linked to increase in salary and being able to spend more time with patients and offer a wider range of products.

Table 54 – Responses related to direction of movement between the NHS and the private sector

Direction of movement			
Work context	**Number of responses**	**Code**	**Examples**
Private to NHS	2	Variety of the NHS	*"I initially took on a role in the private sector, but this was not for me. I wanted to try private to give patients a wider access to technology. I then decided to go to the NHS as I really enjoy the opportunities available beyond hearing care. I am really interested in balance, so I am hoping to learn more about this area."*
	3	Not selling	*"Initial start in private sector but wanted to move away from sales-based job."*
	1	Disillusioned by private sector	*"NHS then private then back to NHS as disillusioned in private sector"*
NHS to Private	1	Disillusioned by the NHS	*"NHS: Free at point of delivery ethos. Private: Disillusionment at standard and quality of service provided in NHS. NHS restrictions of scope of practice/division of scope of practice. Income more fitting to my post graduate qualification."*
	3	Offer more to patients	*"I started off in the NHS but always worried how my clients were getting on with their hearing and could never follow them up with rehabilitative appts myself. They would see any audiologist available in the dept. So, I decided to do private work where I can maintain the continuity of care of my patients which I feel is important in terms of how they progress with their aids and managing their hearing."*
	2	Private salary and personal	*"NHS initially as a standard way into the job. Privately now as it has more flexibility for family life, better salary and more flexibility in work undertaken."*

b) *What is their professional expertise, registration status and professional body membership? (Q16 – Q21)*

Questions 16 to 21 gathered information about their professional expertise in areas of audiology as well as the professional bodies they are members of and the various registers they have joined.

Question 16 – Select all the areas below that are relevant to your professional expertise.

Figure 47 provides an overview of the areas selected by respondents indicating their professional expertise. The list of areas provided in the question include procedures linked to specific qualifications and the spread across the procedures reflect that. For example, cochlear implant assessment (34 respondents) and rehabilitation (22 respondents) is a specialist area and is typically linked to clinical scientist scope of practice in the United Kingdom. There are 52 respondents with qualifications that lead to eligibility to register as a clinical scientist.

Procedures such as otoscopy adults (318 respondents) and adult audiometric assessment (313 respondents) fall within the scope of all qualifications except for those with only hearing therapy qualifications (one respondent). It is important to note that the selection of these procedures do not correlate with the total number of responses which may be due to retirement or job role changes.

Areas relevant to professional expertise

Area	Value
16.1. Otoscopy Adults	318
16.2. Otoscopy Paediatrics	254
16.3. Adult audiometric assessment	313
16.4. Paediatric audiometric assessment	237
16.5. Tympanometry in Adults	304
16.6. Tympanometry in Children	259
16.7. Acoustic Reflex threshold testing	259
16.8. Speech audiometry (AB word list and Quick sin)	256
16.9. Otoacoustic emissions testing	230
16.10. Auditory evoked potentials	150
16.11. Vestibular assessment	112
16.12. Vestibular rehabilitation	81
16.13. Ear impression taking	322
16.14. Adult Hearing aid fitting	294
16.15. Paediatric Hearing aid fitting	161
16.16. Probe microphone measurements	294
16.17. Cochlear implant assessment	34
16.18. Cochlear implant rehabilitation	22
16.19. Bone anchored hearing aid assessment	83
16.20. Adult Aural rehabilitation	275
16.21. Paediatric aural habilitation	145
16.22. Hearing Therapy	79
16.23. Tinnitus assessment	147
16.24. Hyperacusis assessment	110
16.25. Tinnitus management	155
16.26. Hyperacusis management	104
16.27. Central auditory processing assessment	66
16.28. Management of patients with central…	69
16.29. Neonatal hearing screening	72
16.30. Management of neonatal hearing screening…	52
16.31. Wax removal and cerumen management	108
16.32. Management of service	141

Figure 47 – Areas of professional expertise indicated by respondents

Question 17 – Please add below if there are any areas not listed above that is part of your professional expertise.

Seventy-one respondents provided further areas not listed in question 16. Table 55 provides a summary of the codes, number of responses and examples. Further example quotes can be found in appendix 16.

Table 55 – Summary of areas not included in question 16

Code	Number of respondents	Examples
Education/ training	22	*"Training and assessment of students"*
Learning disability	8	*"Learning Disability clinics. Complex review patients"*
Research	7	*"Management of research portfolio"*
Management	5	*"Management of staff"*
Repairs	2	*"Hearing aid repairs"*
Business management	4	*"Training, marketing, financial managing of a business"*
Hearing protection	4	*"Advising regarding specialist hearing protection."*
Dementia	2	*"Education and training. Complex needs - intellectual disabilities and dementia assessment and rehabilitation."*
Cognitive Behavioural Therapy (CBT)	3	*"Cognitive behavioural therapy- qualified CBT therapist (post grad diploma)"*
Lip reading	2	*"lipreading/speech reading teacher - ran voluntary visitor service"*
Deaf awareness	1	*"Deaf Role Model. Run courses on Deaf Awareness Training to help other professionals on communicating to others with a hearing loss."*
Audit/service development/ UKAS	4	*"Audit. Service development. Research. Learning disabilities."*
Governance	2	*"Governance Training & Development"*
Middle ear implants	2	*"Middle ear implant assessment and rehabilitation, bone anchored hearing aid rehabilitation."*
Charity/NGOs	3	*"Sponsoring a deaf school in Kenya for 18 years with annual visits to supply hearing aids and equipment for audiological assessments and set up a mould making facility for self-sufficiency"*
Crossover with other specialities	5	*"I have cross trained into a clinical measurement speciality using my previous neuroscience background - intraoperative monitoring for scoliosis surgery."*
Other audiological	3	*"Misophonia management"*
Technical support	1	*"IT coordinator-we cannot forget how much we depend on IT"*

Question 18 – Which professional bodies are you a member of? Select all that apply.

Question 18 considered professional body memberships as it is not unusual to be a member of more than one in the United Kingdom. The bodies listed in question 18 are: British Academy of Audiology (BAA), British Society of Hearing Aid Audiologists (BSHAA), British Society of Audiology (BSA) and the Association of Independent Hearing Healthcare Professionals (AIHHP). Figure 48 provides an overview of the respondents' membership numbers for each body, with the BAA and BSA both showing the highest number of memberships in the cohort of 329. Of the 329 respondents, 53 indicated that they held no membership to any professional body. Membership of a specific body is often linked to the work context with BAA membership more prevalent in NHS clinicians and BSHAA and AIHHP more prevalent in the private sector and this is linked to the remit of the organisations. Some of the organisations also provide access to reduced cost indemnity insurance and medical insurance companies often require membership of one or the other organisation.

Figure 48 – Number of members of each professional body

In the category of '*other',* 14 of the 67 respondents only listed regulatory bodies (e.g., RCCP, AHCS and HCPC) and were subsequently moved to the category of none, bringing the total of respondents with no professional body membership to 67. This indicates confusion among the respondents as to the difference between a

professional body and a regulatory body. The number of '*other*' responses will be considered further in question 18a.

Question 18a – If you selected Other, please specify:

Table 56 provides a list of *'other'* organisations provided by 21 respondents. The list includes some of the organisations include international audiology professional and regulatory bodies (**AAA, Audiology Australia, ISA, ASHA, New Zealand Audiological Society**) as well as organisations linked to peripheral (**BAAP, BATOD**) or specialist (**BTA, BCIG, ACPIVR, Institute of Acoustics**) areas that overlap with audiology in the UK. Some respondents also indicated membership to organisations that link back to historical training pathways where neurophysiology and cardiac physiology training overlapped with audiology (**BSE, ANS**). There were also organisations linked to higher education (**HEA**), Performance coaching (**Association of Performance Coaching**), Energists (**Guild of Energists**) and Neurolinguistic programming (**ANLP**) which may represent previous careers or further study.

Table 56 – Other organisations

American Academy of Audiology **(AAA)**
Association of Chartered Physiotherapists in Vestibular Rehabilitation **(ACPIVR)**
Association for Neuro Linguistic Programming **(ANLP)**
Guild of Energists
Association of performance coaching
ATLA (unknown)
Audiology Australia
British Cochlear Implant Group **(BCIG)**
British Association of Audiovestibular Physicians **(BAAP)**
British Tinnitus Association **(BTA)**
International Society of Audiologists **(ISA)**
British Society of Echocardiography **(BSE)**
The Association of Neurophysiological Scientists **(ANS)**
British Association of Teachers of the Deaf **(BATOD)**
American Speech-Language-Hearing Association **(ASHA)**
Higher Education Academy **(HEA)**
Institute of Acoustics
New Zealand Audiological Society

The results were then analysed to consider the number of membership(s) per respondent. Figure 49 provides an overview of respondents with one or more professional body memberships. Of the 329 respondents, 140 had only one membership, 87 with two memberships, 30 with three memberships and 4 with four and one with five memberships.
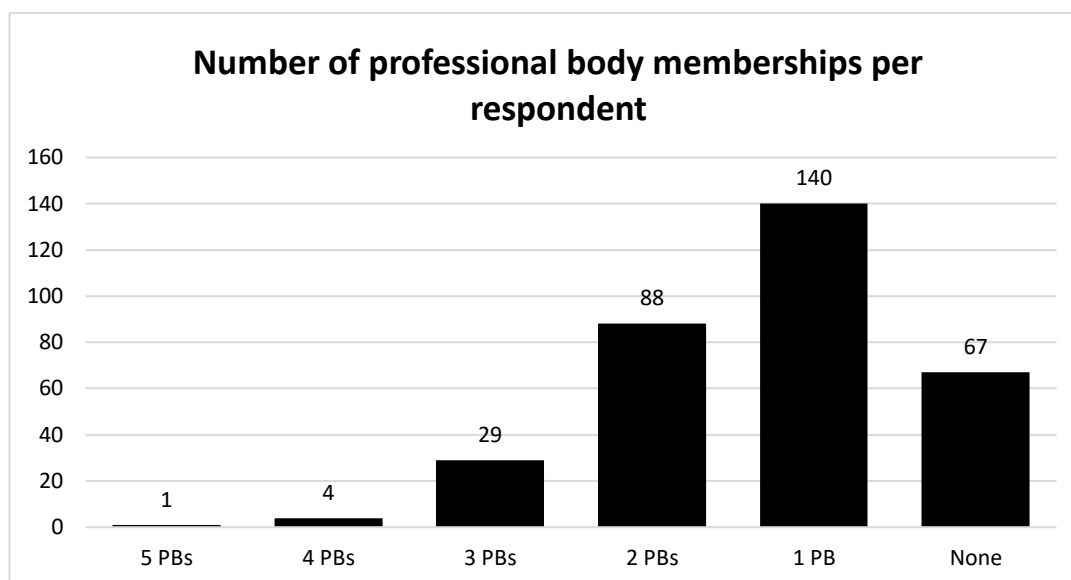
Figure 49 – Number of professional body memberships per respondent

Table 57 provides an overview of the different professional body combinations presented in figure 49. The professional bodies that occur in most of the combinations are **BAA, BSA, BSHAA** and **AIHHP**. One respondent is not registered with any of the UK organisations but with the **New Zealand Audiological Society**.

Table 57 – Range of different professional body membership combinations

Number of Professional Body memberships	Professional Body Combinations	Number of respondents with this combination
Five	BAA, BSHAA, AIHHP, BTA, ISA	1
Four	BAA, BSHAA, BSA, AIHHP	3
	BAA, BSHAA, BSE, ANS	1
Three	BAA, BSHAA, BSA	7
	BAA, BSHAA, AIHHP	5
	BAA, BSA, AIHHP	4
	BAA, BSA, BCIG	2

	BAA, BSA, AAA	2
	BSA, BSHAA, AIHHP	1
	BAA, BSA, Institute of Acoustics	1
	BAA, BSA, British Association of Audiovestibular Physicians	1
	BAA, BSA, Audiology Australia	1
	BAA, BSA, Association of performance coaching	1
	BAA, BSA, ACPIVR	1
	BAA, BATOD, ASHA	1
	BAA, ANLP, Guild of Energists	1
	BAA, AIHHP, AAA	1
Two	BAA, BSA	69
	BSHAA, AIHHP	5
	BAA, BSHAA	4
	BSHAA, BSA	3
	BAA, BTA	2
	BAA, BCIG	2
	BSHAA, ATLA	1
	BSA, HEA	1
	BSA, AIHHP	1
One	BAA	108
	BSHAA	15
	BSA	14
	AIHHP	2
	New Zealand Audiological Society	1

Question 19 – Are you currently registered with a registration body?

Of the 329 respondents, 310 indicated that they are registered and 19 that they are not registered (figure 50).
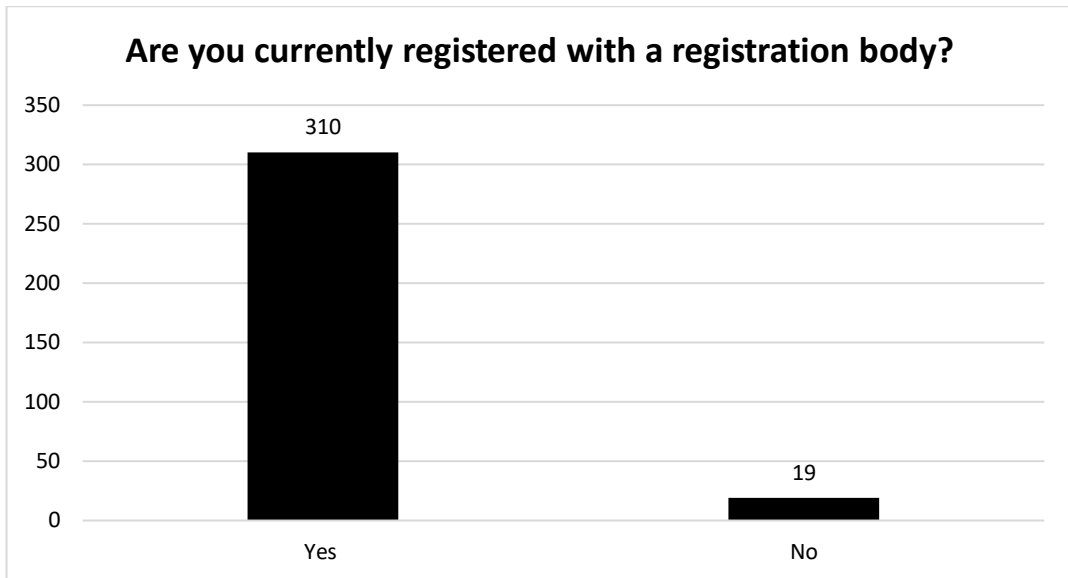
Figure 50 – Number of registered respondents

Question 20 – Select the registration bodies that you are currently registered with.

Question 20 applies to the 310 respondents that indicated they are registered in question 19. Figure 51 provides a summary of the registered respondents per registration body. Most responses indicated registration with the RCCP as an audiologist (200) followed by HCPC registered Hearing Aid Dispensers at 98.
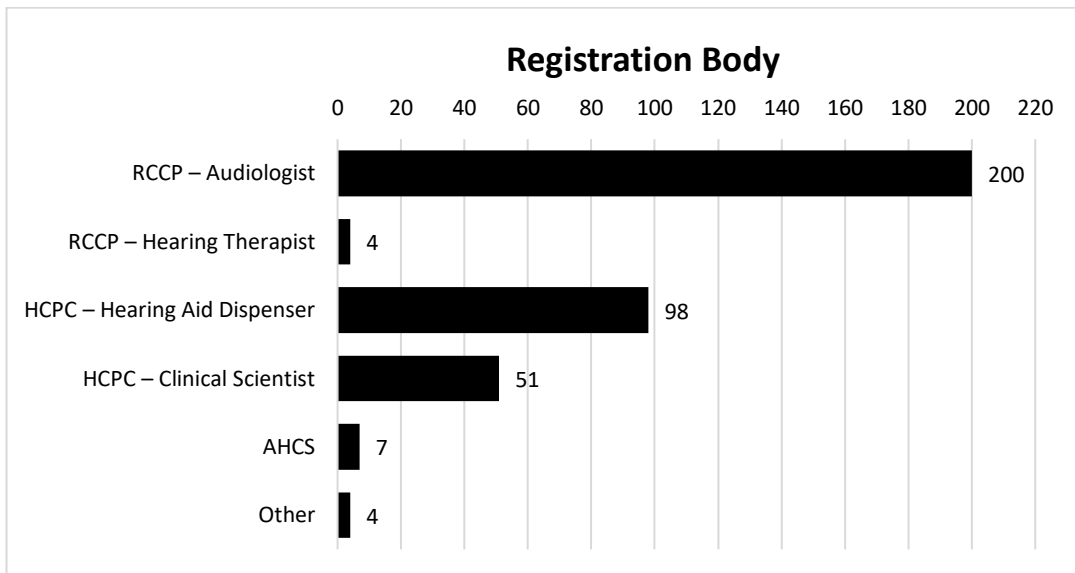
Figure 51 – Overview of registration

The four respondents that selected *'other'* included two international registers (Australia and South Africa) as well as the General Medical Council (GMC). One of the four stated that they were registered as a clinical scientist before retiring but remain registered as a Hearing Aid Dispenser. Of the 310 respondents, 259 are registered with just one registration body, 48 with two registers and three respondents with three registers (figure 52)
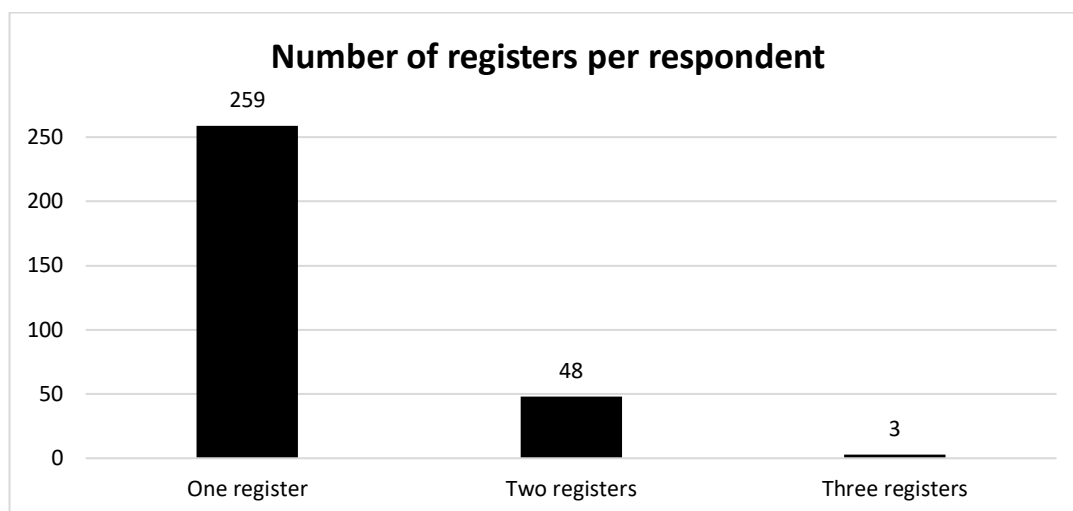
Figure 52 – Number of registers per respondent

Figure 53 provides an overview of the number of registrants with one registration body with the majority registered with the Registration Council for Clinical Physiologists (RCCP) as an audiologist (155) followed by Hearing Aid Dispenser (56) and Clinical Scientists (42) with the Health and Care Professions Council (HCPC). The remaining six are registered with the RCCP as a hearing therapist (two), three with the Academy of Healthcare Science (AHCS) and one respondent who is registered with the General Medical Council (GMC) (selected '*Other*').
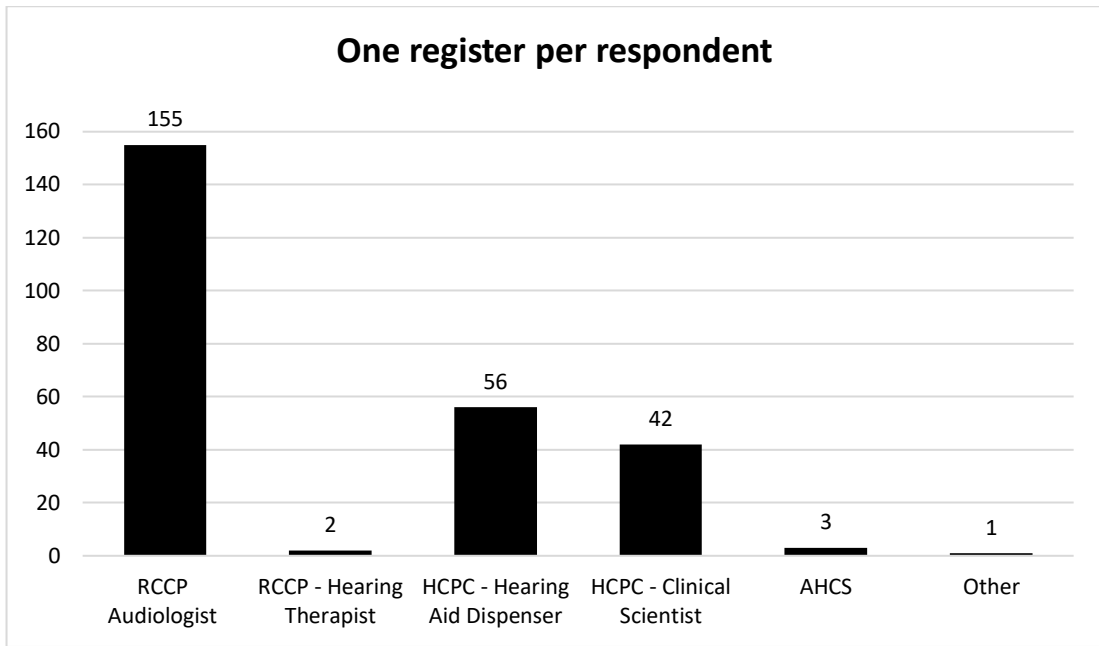
Figure 53 – One register per respondent

Figure 54 provides an overview of the 48 respondents that are registered with two registration bodies. Of the 48, 35 respondents indicated that they are registered with the RCCP as an Audiologist and with the HCPC as a Hearing Aid Dispenser. There is one respondent that indicated they are registered with the RCCP as an audiologist and Audiology Australia (selected '*Other*'). A further response provided in '*other*' was a combination of HCPC Hearing Aid Dispenser and RCCP registered under the modality of Cardiology.
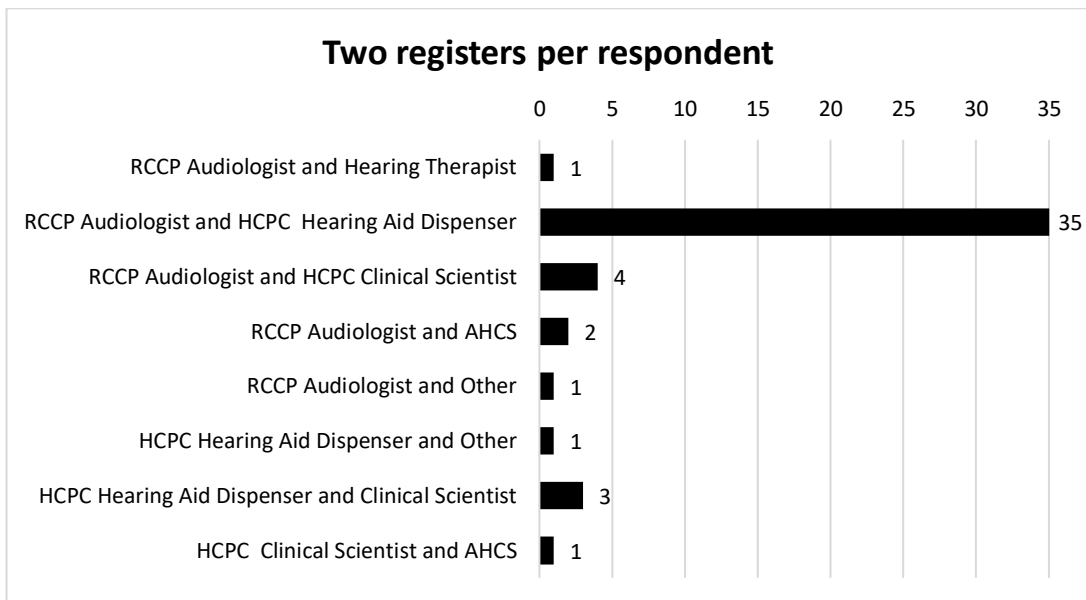
Figure 54 – Two registers per respondent

What is interesting to note is that there are five respondents with overlapping registration. This applies to Clinical Scientists who are HCPC registered but also registered with the AHCS or RCCP as Audiologists, which is not required. Three of the 310 respondents are registered with three registration bodies and figure 55 provides an overview of the different combinations.
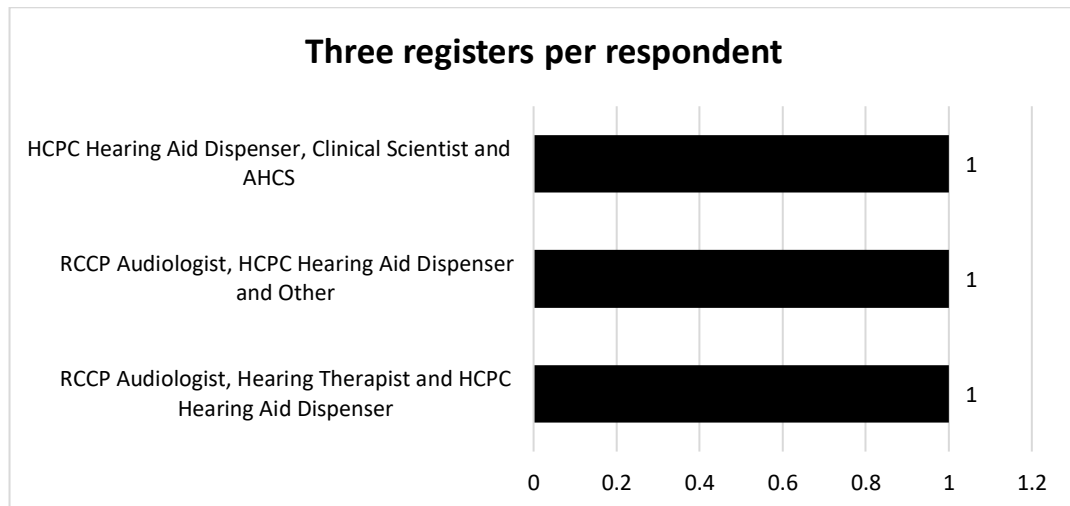
Figure 55 – Three registers per respondent

Question 21 considers the 19 respondents that stated they are not registered, to explore why they are not registered.

Question 21 – Is there a specific reason why you are not registered? Select all that apply.

Figure 56 provides a summary of the reasons selected by the 19 respondents with none selecting '***not eligible to register'***. Of the 19 respondents, seven selected two options and 12 selected one. ***'Not required by employer'*** and ***'Cost of registration'*** were selected with six and five responses respectively.
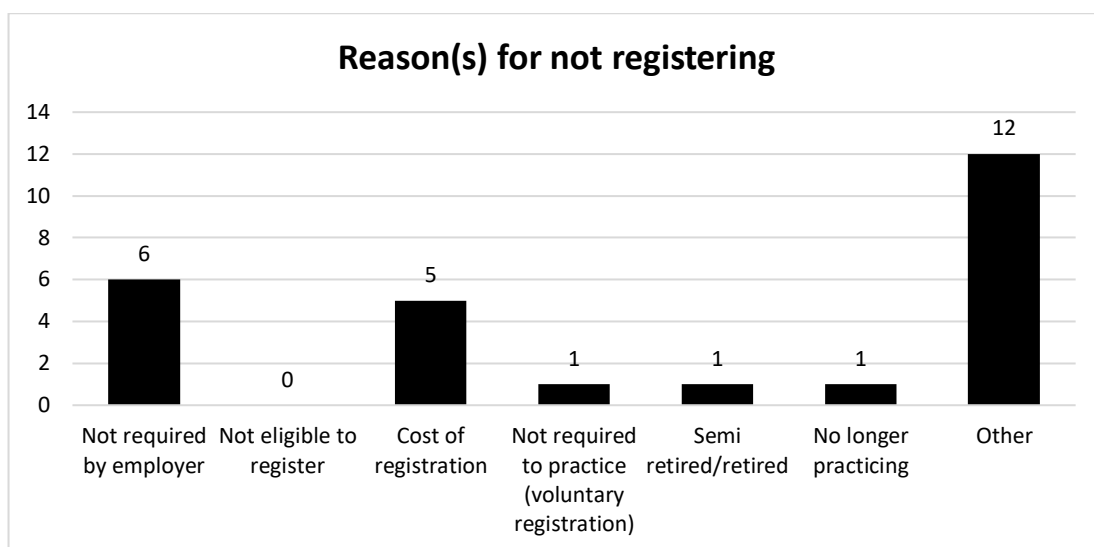
Figure 56 – Reason(s) for not registering

Twelve respondents selected '*Other'* and table 58 below provides the list of reasons provided for not registering. Of the 12 respondents selecting *'Other'*, 10 provided reasons not listed in the question and two provided reasons linked to the those listed in the question (table 59). Further examples quotes can be found in appendix 16.

Table 58 – Reasons provided in '*Other'* category not listed in the question

Code	Number of respondents	Example quotes
Applications in process	3	*"Application is pending"*
Studying on an audiological course	4	"*Still studying final term"*
Application process	3	"*It is not required but is desired by employer. I have started the process a few times but as my qualification requires me to apply via a long form and provide a lot of evidence, I have struggled to motivate myself to complete it.*"

Table 59 – Reasons provided in '*Other'* category that was listed in the question

Code	Number of respondents	Example quotes
Not eligible to register	1	"*Being an associate audiologist, I am not required too*"
Cost of registration	1	"*Registration ran out when on mat leave. I was struggling financially at the time. I have not yet rejoined.*"

c) Which audiology professional they identify as? (Q22 – Q23)

Questions 22 and 23 focuses on the use of titles to determine which titles respondents prefer. The range of titles included in the list presented to survey respondents included titles used in regulation (Hearing aid dispenser, Audiologist, Hearing therapist, Clinical Scientist) as well as titles linked to job roles (Hear(ing) care assistant, Lecturer/Senior Lecturer, Teaching fellow/Senior teaching fellow, Clinical lecturer, Associate Professor/Professor, Locum and Hearing aid audiologist) and course titles (Hearing aid audiologist). Healthcare Scientist and Allied Health Professional are titles linked to the organisational structure particularly used in the NHS in the United Kingdom and act as an umbrella term for professions with similar qualities.

Question 22 – Which title(s) apply to you? Select all that apply.

Of the 329 respondents, 262 selected Audiologist as a title that applies to them with 57 selecting Hearing Aid Dispenser and 54 as a Clinical Scientist. The remaining titles are summarised in figure 57.
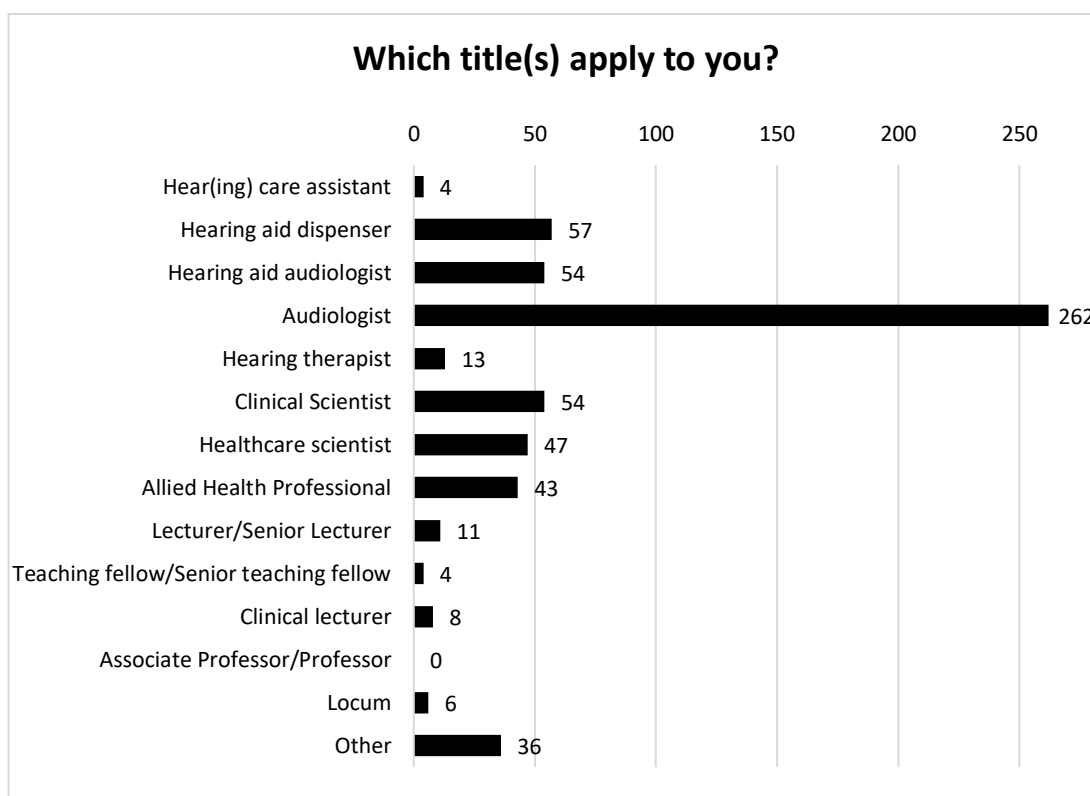
Figure 57 – Titles as selected by respondents

This question included two titles - Allied Health Professional (AHP) and Healthcare Scientist (HCS) – to determine awareness of the title as well as to see if there is a preference. Only 90 of the 329 respondents selected either option with HCS at 47 and AHP at 43. There were 12 respondents who selected both options adding to the confusion about the relevance of these titles. On reflection it would have been better to set this as a separate question to respondents. The audiology profession is considered a Healthcare Science in the United Kingdom but in other parts of the world it is an Allied Health Profession which might explain the results from this survey. In some NHS trusts, audiology is a HCS but fall within the AHP directorate adding to the confusion. At present audiology is one profession within HCS linked through the Modernising Scientific Careers (MSC) programme but there is confusion in the profession (as supported by the results above) about the relevance of this grouping especially when considering the rehabilitation aspect of the audiology profession.

Figure 58 provides a summary of the number of titles per respondent ranging from 168 with one title, to two with six and seven titles respectively.
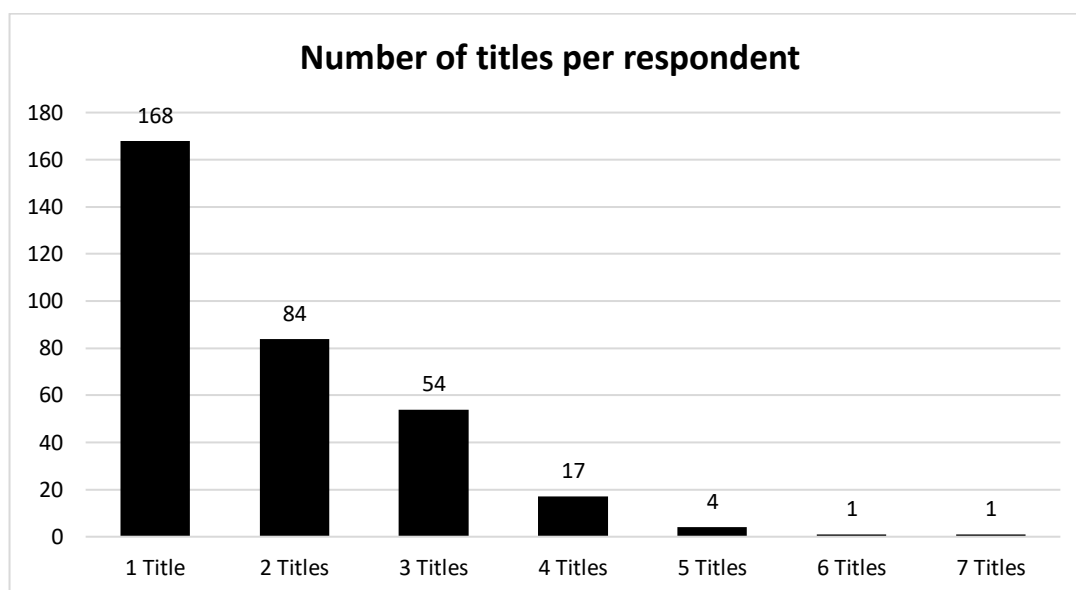
Figure 58 – Number of selected titles per respondent

The title *'other'* was selected by 36 respondents and of this, nine selected *'Other'* with no other option in the list selected. Table 60 provides a summary of the responses listed as *'other'* with eight respondents providing an additional title without selecting the option of *'other'*. It should be noted that some titles provided by respondents are

linked to job descriptions such as *'Head of Department, Clinical Lead in Audiology, Senior Paediatric Audiologist, Advanced Clinical Practitioner'* to name a few. Titles in bold are recognised titles linked to qualifications and some linked to protected titles.

Table 60 – Overview of titles provided in '*Other*' category

Options added with <u>selecting '*other*'</u>
Doctor of Audiology
Head of Department
Clinical Lead in Audiology
Senior Paediatric Audiologist
Chief Audiologist
Head of Audiology
Registered Hearing Aid Dispenser
Lead Paediatric Audiologist
Qualified ***Audiologist*** and Trainee Clinical Scientist (audiology)
Advanced Clinical Practitioner
Senior Audiologist
Retired ***Clinical Scientist***
Specialist Audiologist
Team Leader
Scientific Director
Research scientist
Speech Language Pathologist, Deaf educator, Hanan training cert, AVT Cert
Paediatric Audiologist, Newborn Hearing Screening Manager
Hearing Services Manager
Head of Service
Also, operational lead of large service
Audiovestibular Physician
Paediatric Audiologist
Paediatric Audiologist
Audiological Scientist, Local NHSP Manager
Manager
Research Audiologist
Secretary of a professional Association through my main job
Options added <u>without selecting '*Other*'</u>
Paediatric audiologist
Advanced Audiological Practitioner
Manager of newborn hearing screen
Tinnitus and complex patient lead
Newborn Hearing Screening Coordinator, Vestibular audiologist

Service Lead
Head of department
Cognitive Behavioural therapist
Titles selected as '*other*'
Specialist Audiologist
Research Audiologist
Specialist senior audiologist
Will hopefully be clinical scientist soon.
Trainee associate audiologist
trainee Associate Audiologist
Trainee hearing aid dispenser
Associate Audiologist

Question 23 – If you selected more than one, please rank them below in order of preference, from most to least preferred.

Respondents were asked to rank their selection of titles in preferred order and the analysis focused on the first title listed. Figure 59 provides an overview of eight of the most used titles in the profession ranked in first place by respondents.
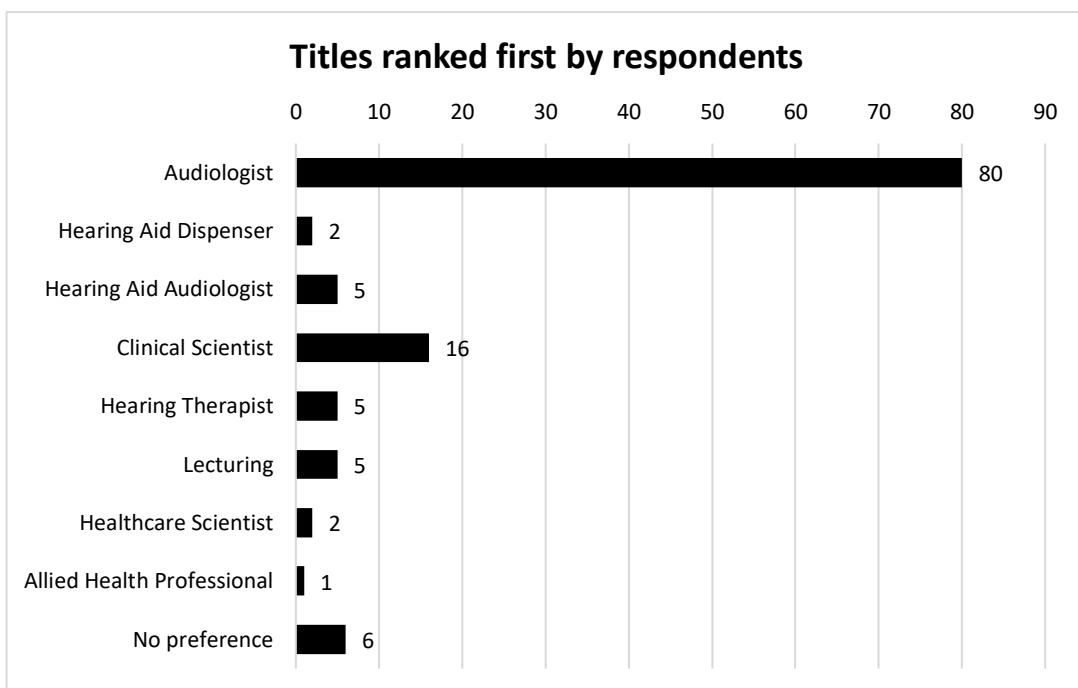
Figure 59 – Titles ranked first by respondents

d) What is the perceived difference in scope of practice between the different audiology professionals? (Q24 – Q25)

Question 24 – Below are a list of audiological procedures and four audiological professionals, based on the title of registration. Consider each procedure and select the relevant professional in which scope of practice it falls. Some procedures may apply to more than one professional.

The purpose of this question was to determine the respondents' understanding of the different scopes of practice for each of the different titles (hearing aid dispenser, audiologist. hearing therapist and clinical scientist) used in the United Kingdom. The analysis of the responses was approached in two ways. The first approach considered each profession and the curriculum contained in the training pathway. The second approach considered the responses in relation to patient population and specialist areas and procedures as well as other relevant areas. The responses were recorded and compared across the different the different titles and their scopes of practice.

Both approaches may be affected by variables in the interpretation of the results. The respondents may have been influenced in their selections by their own backgrounds and eligibility to join multiple registers. For example, a clinical scientist registered as both a hearing aid dispenser and a clinical scientist may be able to perform advanced audiological procedures so may have selected this group of procedures across both titles. A further limitation of the sample is that responses provided by the respondents about scope of practice could be influenced by the number of representatives of each of the four audiology professionals, but this may be of no consequence as several respondents were eligible to use more than title.

In the United Kingdom the provision of certain procedures is linked to the healthcare science career framework and Agenda for Change bandings so the respondents' selection of procedures linked to specific scopes of practice may also be influenced by their own experience of working within the NHS structure. The interpretation of the responses considered general principles of scope of practice and not those linked to level of experience considered within the different bandings used in the NHS.

In hindsight, probe microphone measurements should have been split between adult and paediatric populations as the procedure is more specialised in children and not

performed by all audiology professionals. Therefore, the interpretation of the number of respondents who selected probe microphones across the titles is limited.

Furthermore, the curriculum content can vary somewhat across courses and content. It should be noted that wax removal and cerumen management as well as management of neonatal hearing screening programmes are not included in the curriculum but can be performed by audiology professionals. Wax removal requires a further qualification. The areas of tinnitus and hyperacusis are covered in all curricula but the depth of knowledge varies. Hyperacusis is considered to require more specialist knowledge and support.

The first approach – comparison between each profession and the curriculum contained in the training pathway.

The four types of audiology professionals are compared individually in terms of each curriculum followed by a comparison of an audiologist and clinical scientist. For analysis, the curriculum for an audiologist and clinical scientist were considered in terms of content and not related to their respective job descriptions. The content considers audiology theory and procedures and not generic content about the NHS and healthcare science as included in the Modernising Scientific Careers (MSC) curriculum.

a) Hearing Aid Dispenser

Figure 60 provides a visual presentation of the results from respondents in comparison to the curriculum for hearing aid dispensers. No one category achieved a response of 329, the closest was 318 for otoscopy in adults which is a procedure within the scope of practice for three of the audiology professionals (hearing aid dispenser, audiologist, and clinical scientist). Respondents selected 19 procedures out of 31 (61%) listed that do not occur in the curriculum of the Hearing Aid Dispenser.

b) Audiologist

Figure 61 provides a visual presentation of the results from respondents in comparison to the curriculum for an audiologist. No one category achieved a response of 329, the closest was 322 for otoscopy in adults which is a procedure within the scope of practice for three of the audiology professionals (hearing aid dispenser,

audiologist, and clinical scientist). Respondents selected two procedures out of 31 listed that do not occur in the curriculum of the Audiologist.

c) Hearing therapist

Figure 62 provides a visual presentation of the results from respondents in comparison to the curriculum of a hearing therapist. No one category achieved a response of 329, the closest was 301 for hearing therapy which is within the scope of practice for three of the audiology professionals (hearing therapist, audiologist, and clinical scientist). Respondents selected 25 procedures out of 31 (80%) listed that do not occur in the curriculum of the Hearing Therapist. This may be due to responses from hearing therapists who are also audiology professionals.

d) Clinical Scientist

Figure 63 provides a visual presentation of the results from respondents in comparison to the curriculum of a clinical scientist. No one category achieved a response of 329, the closest was 292 for both otoacoustic emissions testing and vestibular assessment. These procedures are within the scope of practice for two of the audiology professionals (audiologist and clinical scientist). Respondents selected two procedures out of 31 listed that do not occur in the curriculum of the Clinical Scientist.

Figure 60 – Comparison between curriculum content and responses – Hearing Aid Dispenser

Comparison between curriculum content and responses - Audiologist

Legend: Audiologist | Curriculum content
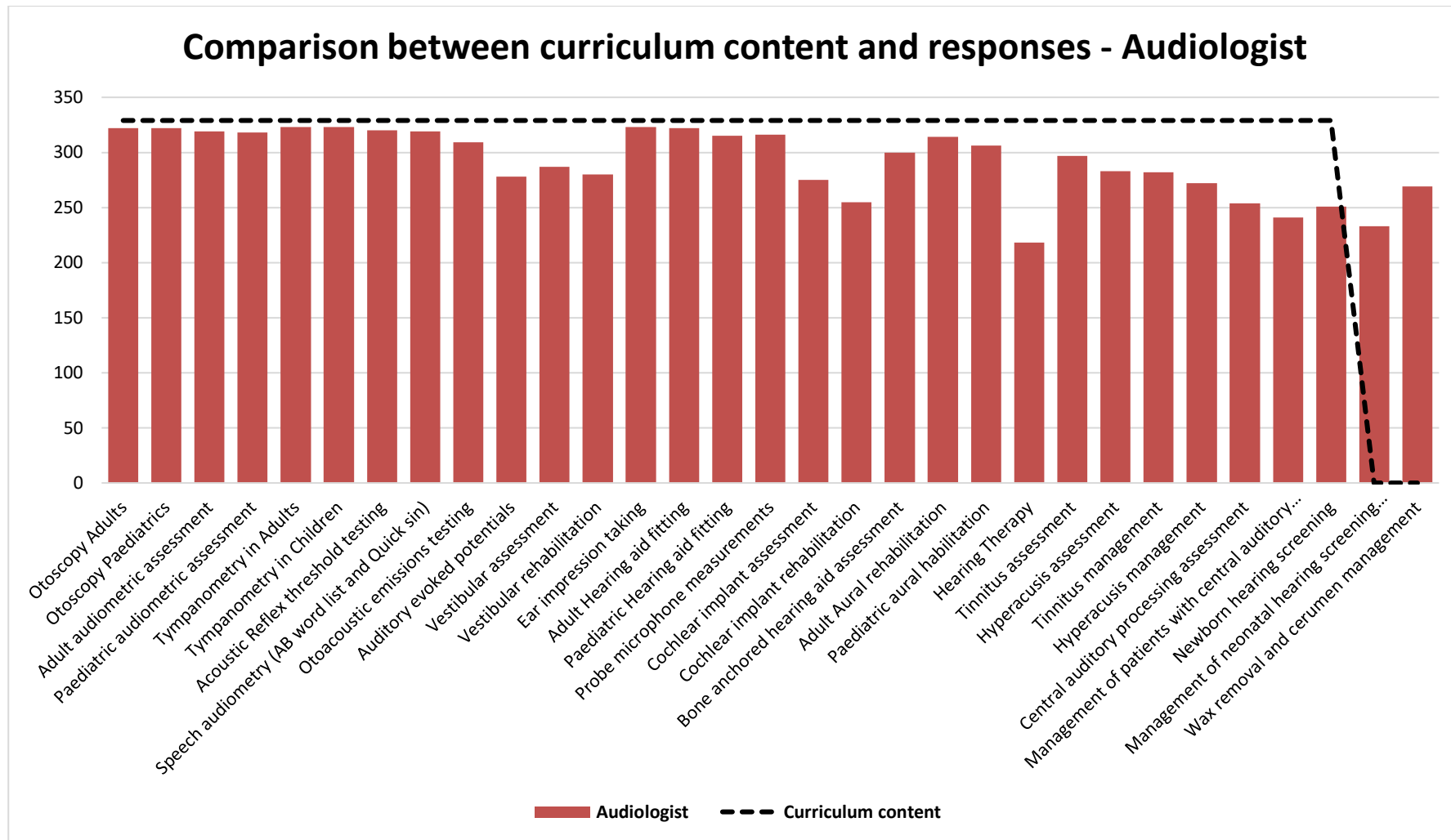
Figure 61 – Comparison between curriculum content and responses – Audiologist
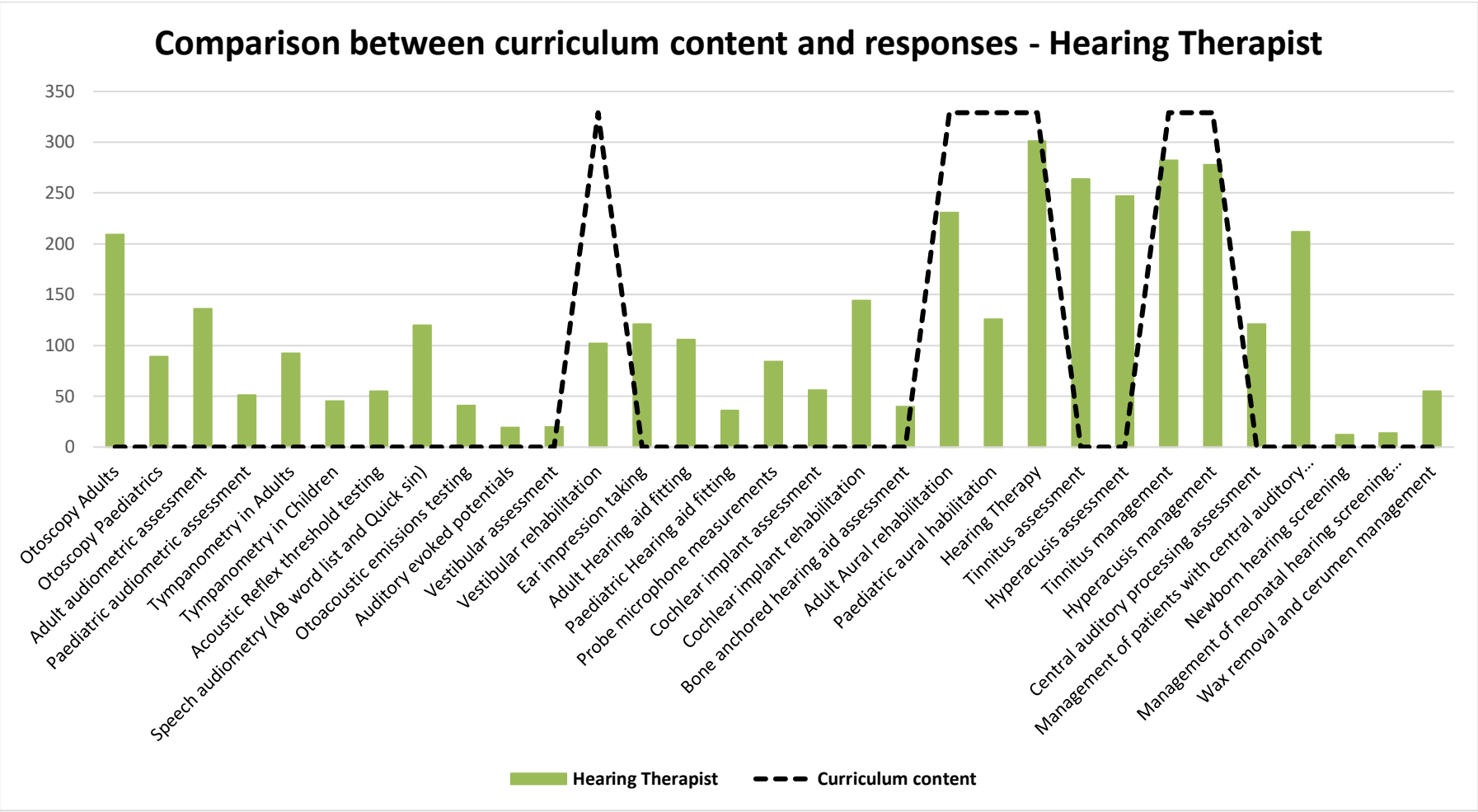
Figure 62 – Comparison between curriculum content and responses – Hearing Therapist
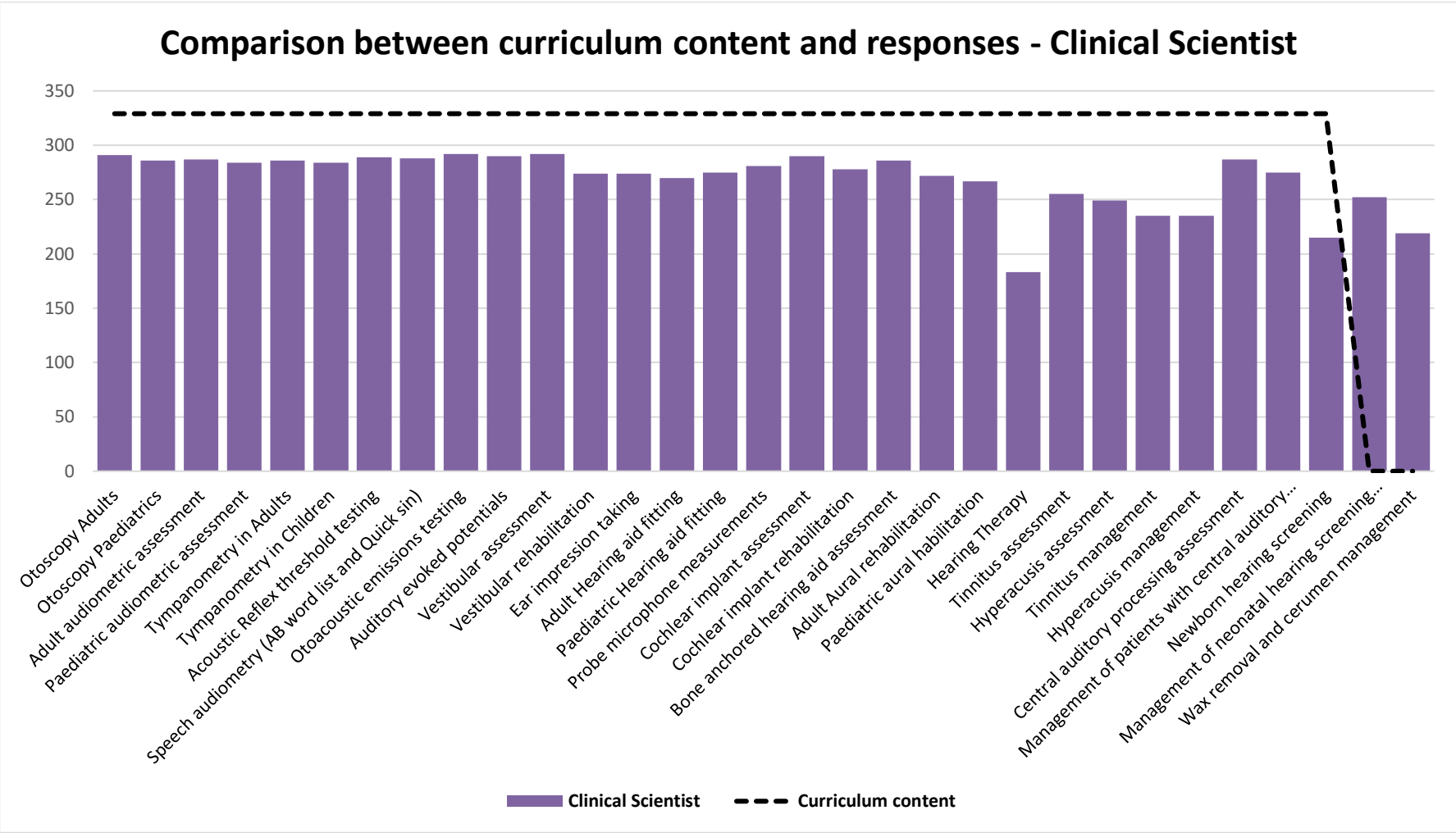
Figure 63 – Comparison between curriculum content and responses – Clinical Scientist
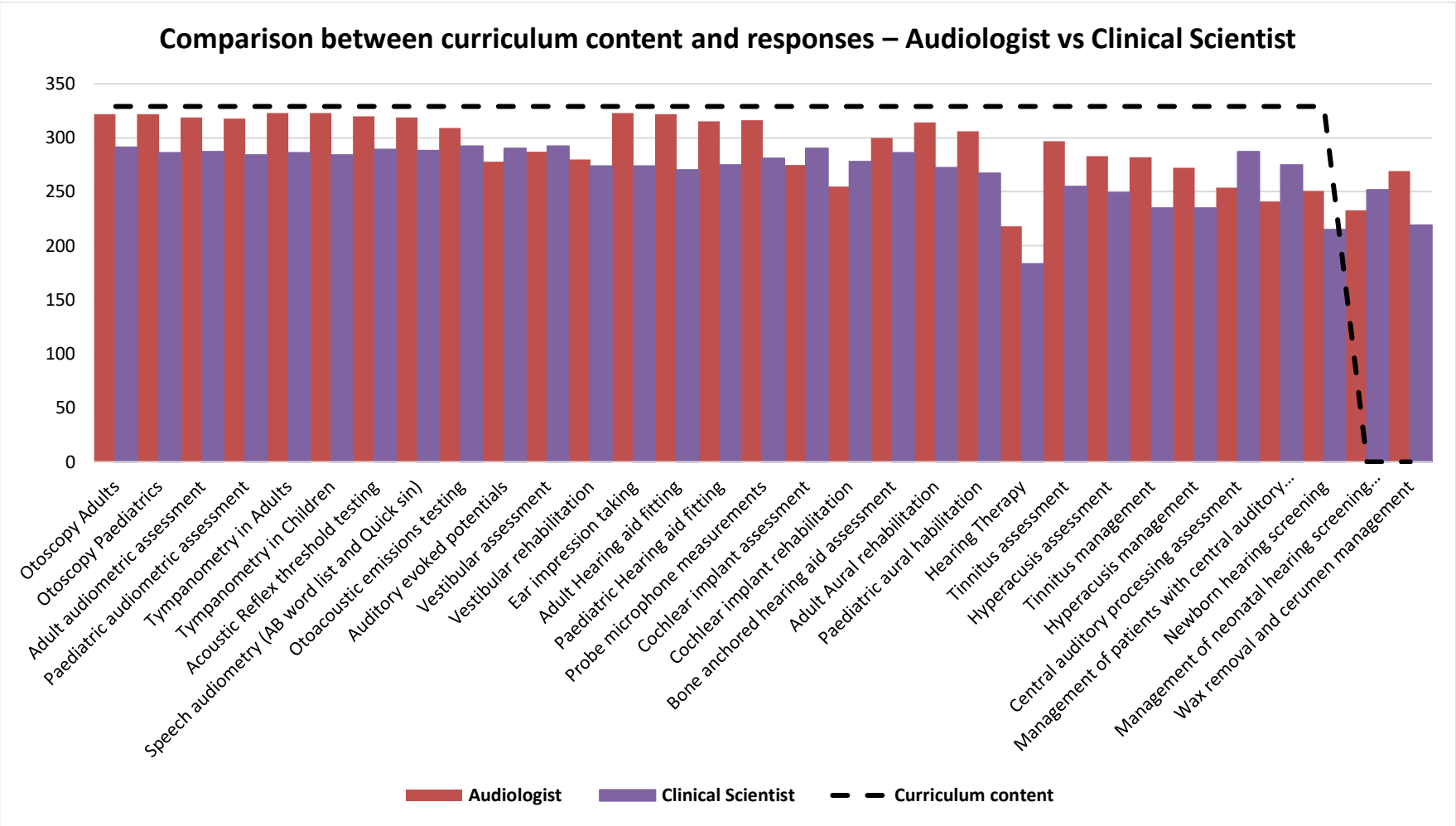
Figure 64 – Comparison between curriculum content and responses – Audiologist vs Clinical Scientist

e) <u>Audiologist versus Clinical Scientist</u>

Figure 64 compares the results from respondents for the audiologist and clinical scientist with the curriculum. For seven of the 31 procedures listed, clinical scientist was selected more than audiologist. The seven procedures are:

- o Management of patients with central auditory processing difficulties
- o Central auditory processing assessment
- o Cochlear implant rehabilitation
- o Management of neonatal hearing screening programmes
- o Cochlear implant assessment
- o Auditory evoked potentials
- o Vestibular assessment

f) <u>Summary</u>

The procedures listed in this question are within the curriculum content of the audiologist and clinical scientist apart from wax removal and cerumen management as well as management of neonatal hearing screening programmes. However, the highest number of responses for an audiologist was 323 (98%) for tympanometry in adults and children and impression taking and 292 (89%) for a clinical scientist for otoacoustic emissions testing and vestibular assessment.

The second approach – comparison of the responses in relation to patient population and specialist areas and procedures as well as other relevant areas. Reponses for the four types of audiology professionals were then compared by grouping procedures according to patient population (adults and children), tinnitus and hyperacusis, advanced audiological procedures and other. Audiologist scored the highest responses for audiological procedures performed in adults and children as well as tinnitus and hyperacusis (assessment). Hearing therapist had the highest responses for hyperacusis management. For advanced and other audiological procedures, the highest responses varied between clinical scientist and audiologist apart from hearing therapy and impression taking with hearing therapist and hearing aid dispenser receiving more responses respectively. Figures 65 to 71 provides a visual representation of the results from respondents.
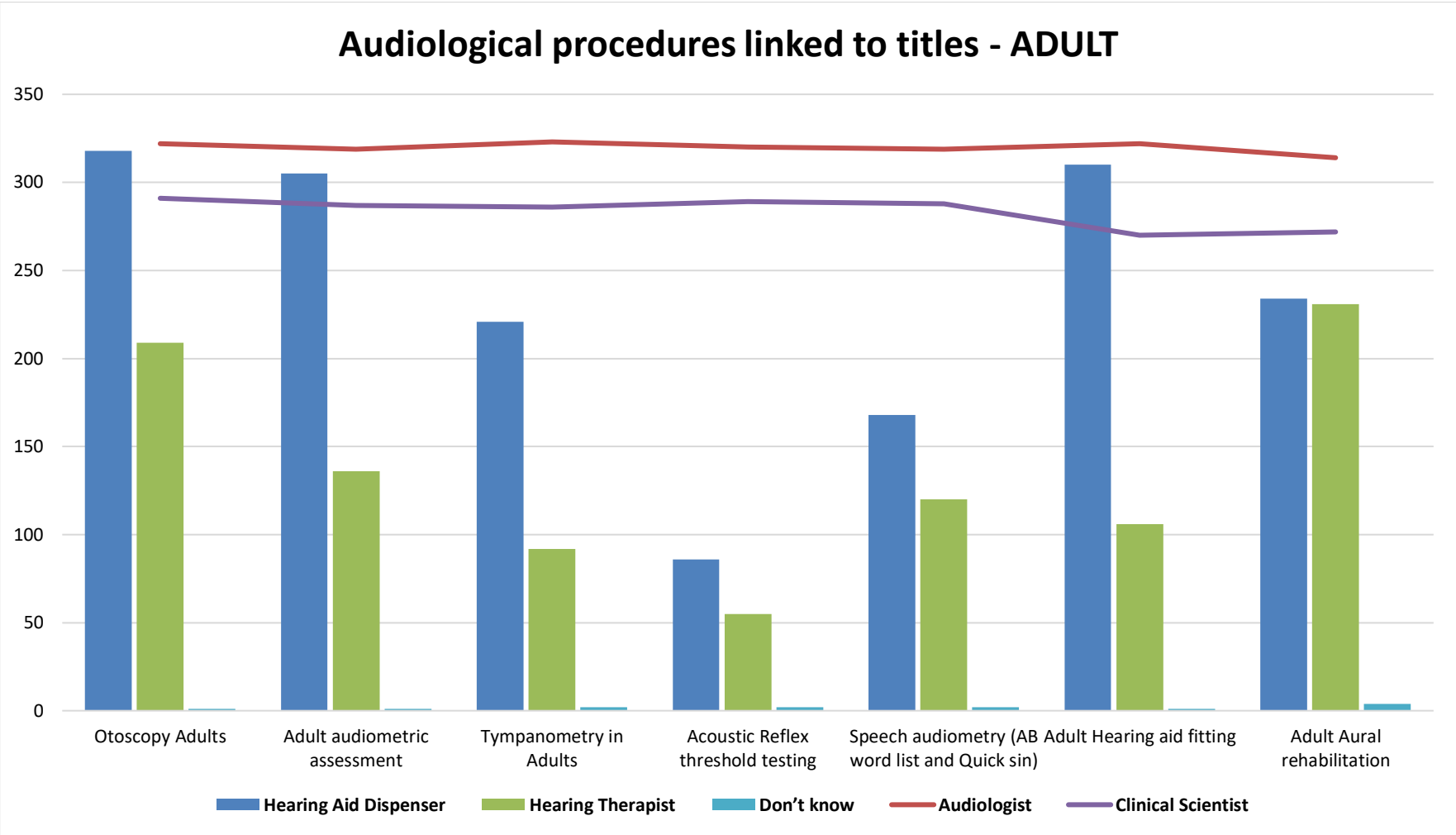
Figure 65 – Audiological procedures linked to titles – ADULT

Audiological procedures linked to titles - Paediatric

Legend: Hearing Aid Dispenser, Hearing Therapist, Don't know, Audiologist, Clinical Scientist

Categories: Otoscopy Paediatrics, Paediatric audiometric assessment, Tympanometry in Children, Paediatric Hearing aid fitting, Paediatric aural habilitation
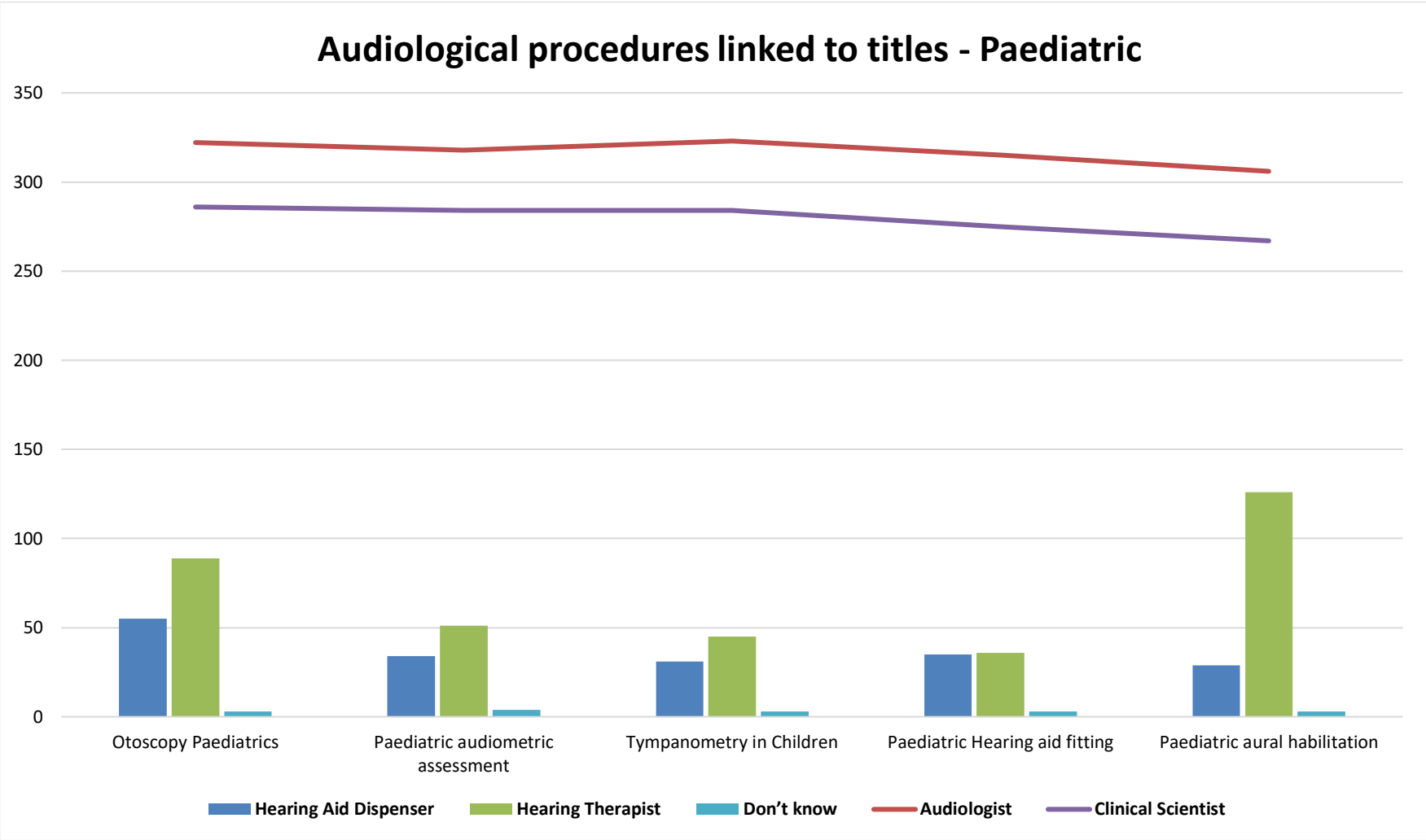
Figure 66 – Audiological procedures linked to titles – PAEDIATRIC
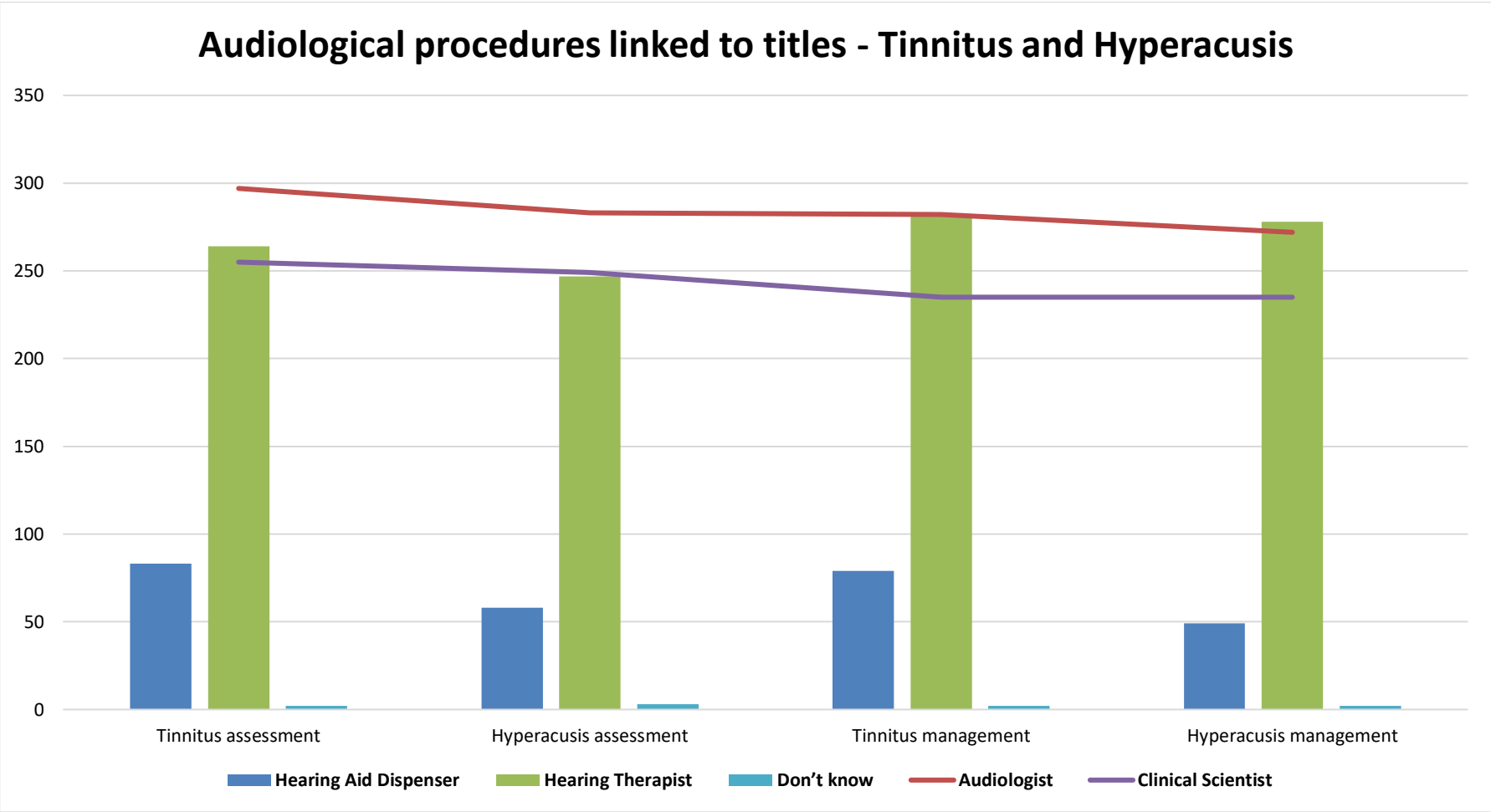
Figure 67 - Audiological procedures linked to titles – TINNITUS and HYPERACUSIS
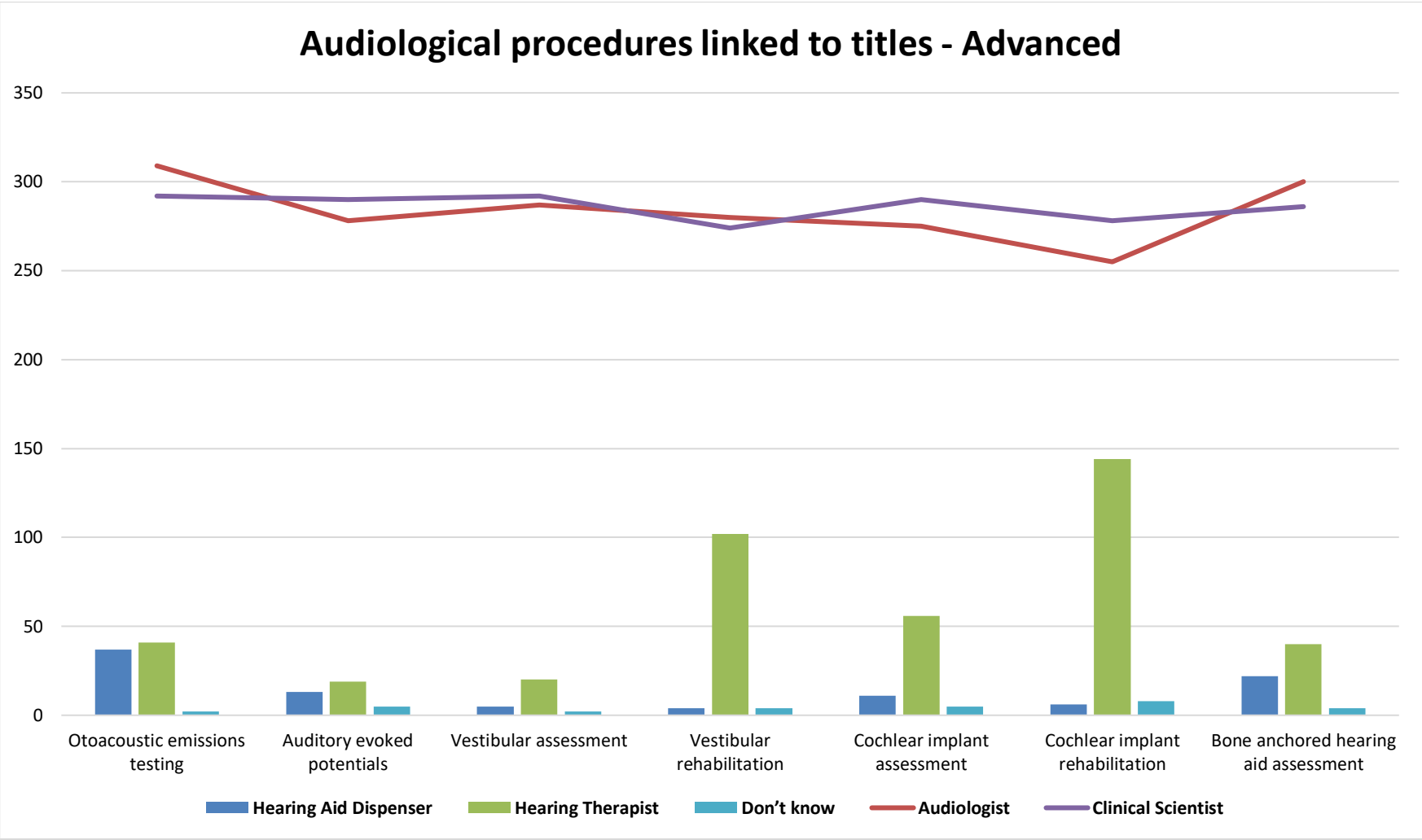
Figure 68 – Audiological procedures linked to titles – ADVANCED
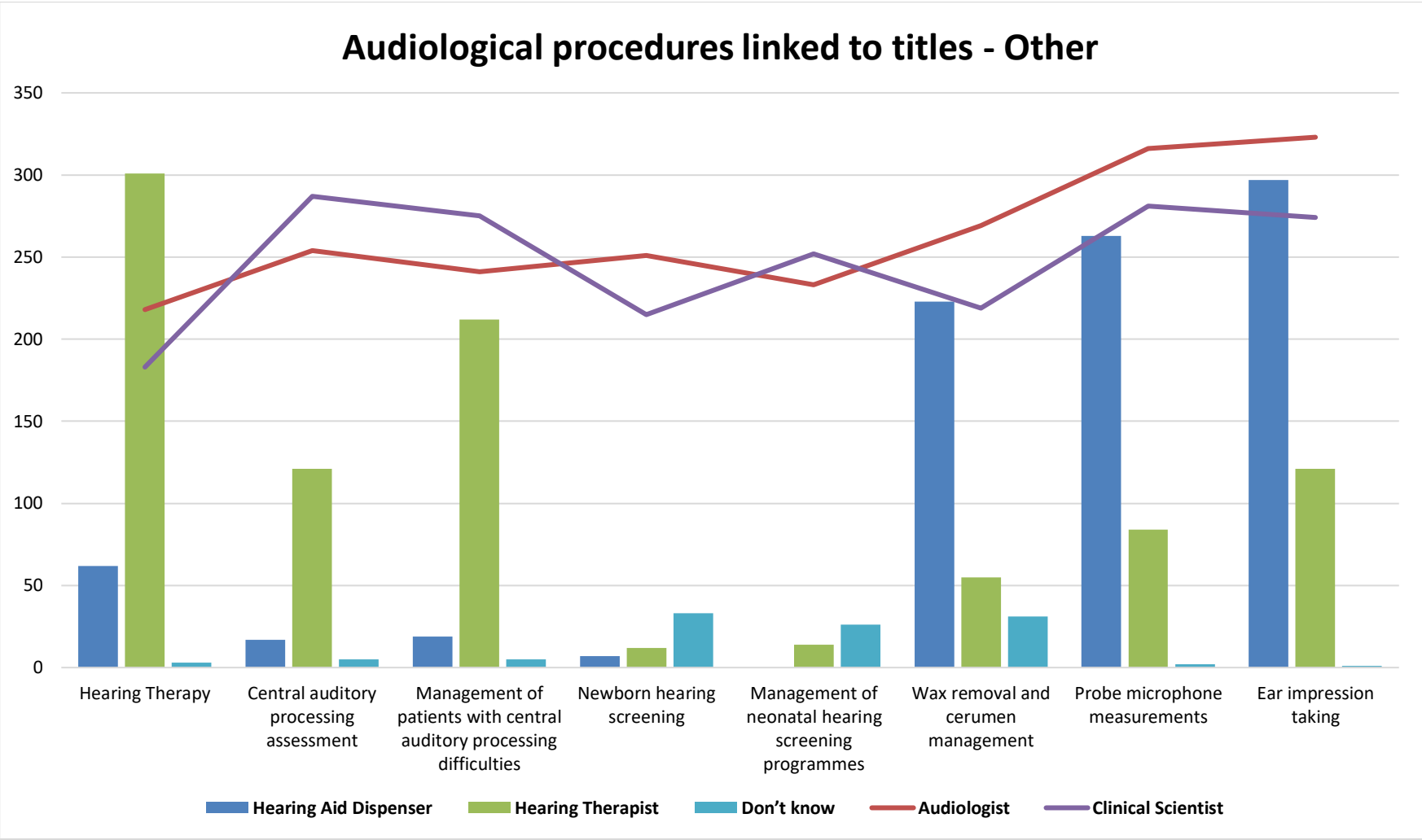
Figure 69 – Audiological procedures linked to titles – OTHER
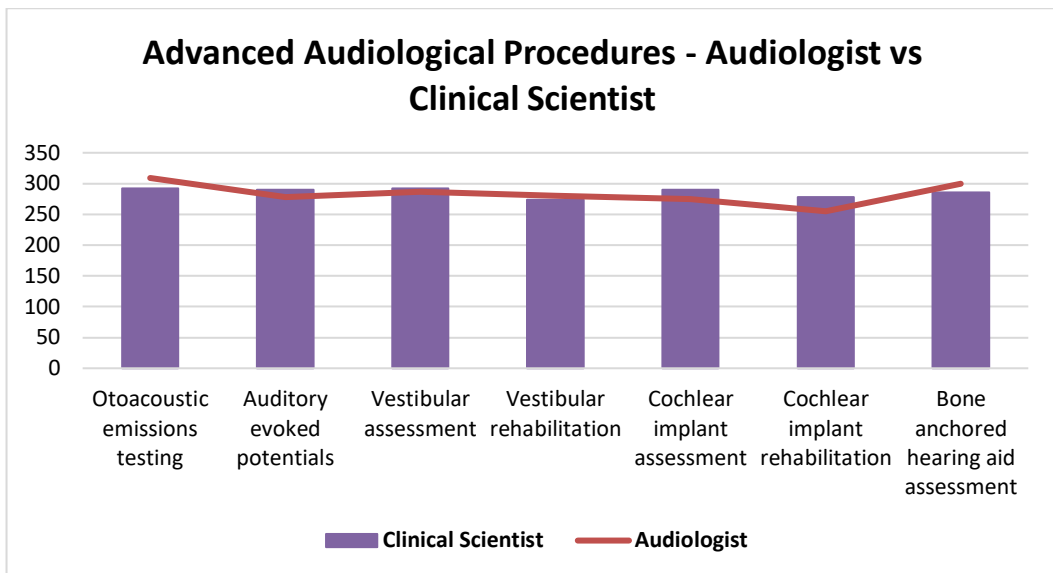
Figure 70 – Advanced Audiological Procedures – Audiologist versus Clinical Scientist
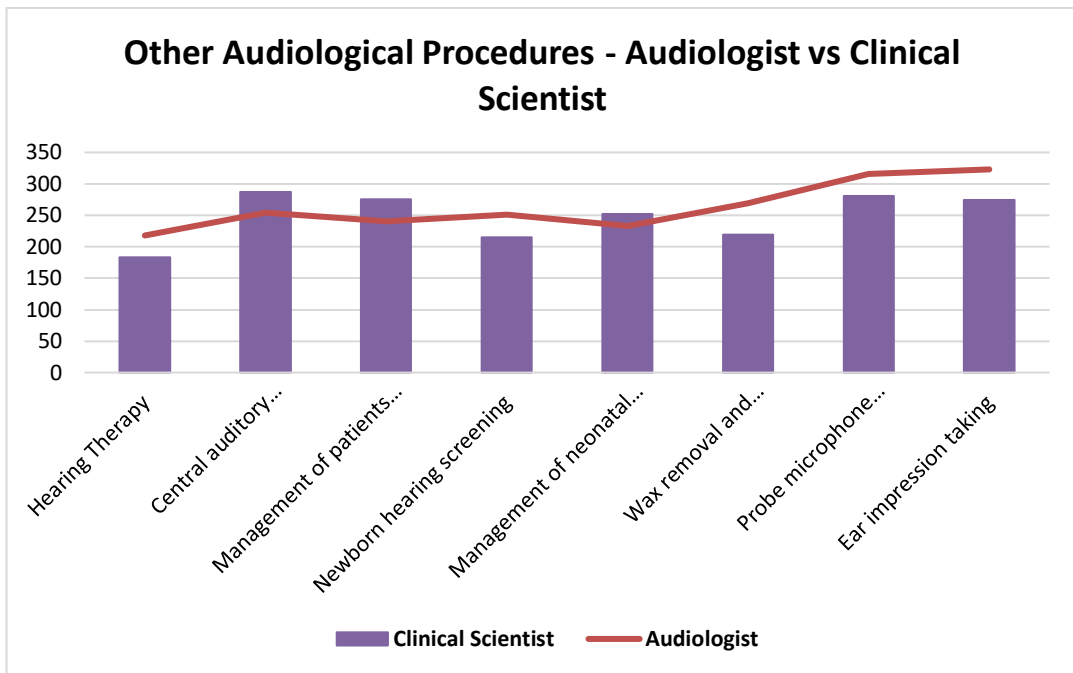
Figure 71 – Other Audiological Procedures – Audiologist versus Clinical Scientist

The option of *Don't know* was added as the audiology professionals, depending on their experience may not be aware of the areas of newborn hearing screening and wax removal in terms of scope of practice (figure 72). The number of *Don't know* responses for standard audiological procedures were surprising with one respondent selecting *Don't know* for all procedures.
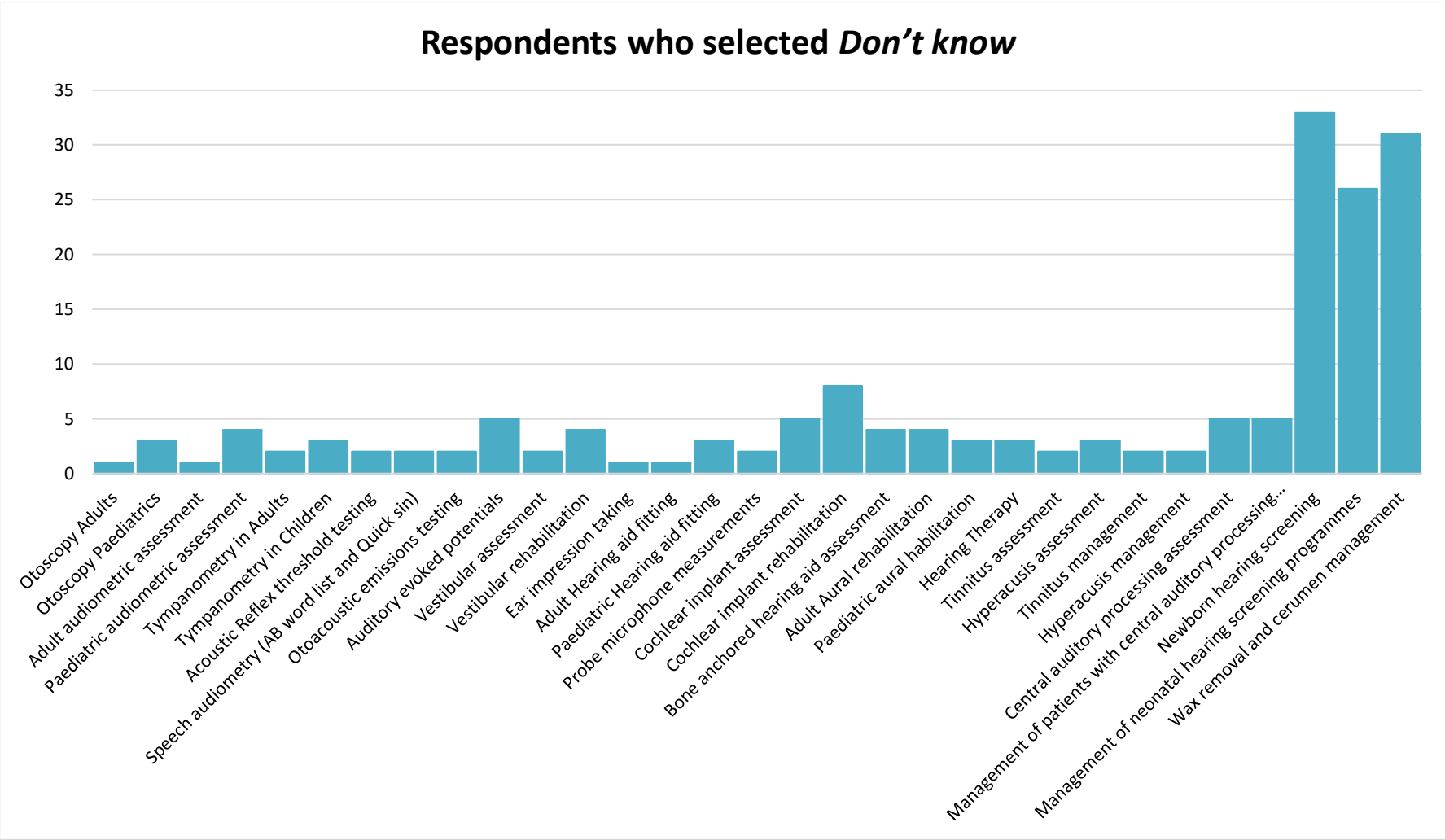
Figure 72 – Respondents who selected _Don't know_

The chart is titled "Respondents who selected _Don't know_" with a y-axis ranging from 0 to 35. The categories along the x-axis are:

- Otoscopy Adults
- Otoscopy Paediatrics
- Adult audiometric assessment
- Paediatric audiometric assessment
- Tympanometry in Adults
- Tympanometry in Children
- Acoustic Reflex threshold testing
- Speech audiometry (AB word list and Quick sin)
- Otoacoustic emissions testing
- Auditory evoked potentials
- Vestibular assessment
- Vestibular rehabilitation
- Ear impression taking
- Adult Hearing aid fitting
- Paediatric Hearing aid fitting
- Probe microphone measurements
- Cochlear implant assessment
- Cochlear implant rehabilitation
- Bone anchored hearing aid assessment
- Adult Aural rehabilitation
- Paediatric aural habilitation
- Hearing Therapy
- Tinnitus assessment
- Hyperacusis assessment
- Tinnitus management
- Hyperacusis management
- Central auditory processing assessment
- Management of patients with central auditory processing…
- Management of neonatal hearing screening
- Newborn hearing screening programmes
- Wax removal and cerumen management

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Question 25 – If there are any areas not listed above, please add them below and include the professional(s) as appropriate.

Of the 329 respondents, 19 provided areas not listed in question 24 but not all indicated the professional in whose scope of practice this might fall. The 19 responses are divided into two groups with group one (table 61) focused on specialised audiological areas as well as leadership and management and group 2 (table 62) focused on individual comments about scope of practice.

Table 61 – Specialised audiological areas as well as leadership and management

Auditory Training and Rehabilitation, Lipreading, are Hearing Therapy responsibilities
Learning Disability Clinic. **Audiologist and Clinical Scientist**
Awed *(Adults with educational difficulties*)* **audiologist and clinical scientist**   Grommet follow ups **audiologis**t
Management of department - **Clinical scientist or senior audiologist / HT**
Complex dementia   Missaphonia (sic)
Service management
NHSP Screener   Associate Audiologist   Specialist ENT Nurse
Deaf Role Model   Run courses on Deaf Awareness Training to help other professionals on communicating to others with a hearing loss.
Regarding screening and management of screening- these are roles not included in the above options
Quality assurance   Research and development   Innovation and pathway design   Learning disabilities and autism expert   Clinical trainer   Digital pathway
Training staff.   Research.
Inter-operative monitoring (sic)

*Interpreted *Awed* based on previous responses in the survey by the same respondent.

The specialist audiological areas provided by respondents are specialist populations and the areas listed in question 24 can include these populations as they require modifications of assessment and management of hearing. Therefore, they are included in the scope of practice but not for all professionals. Areas such as

management and quality assurance are not specific to the profession of audiology, but it is interesting to note that respondents felt it should be recognised as such.

A comment provided by one respondent in table 62 indicates confusion about the purpose of a professional scope of practice, specifically around what is within the individual's abilities versus that of the professional in general (seven). It is also interesting to see a comment about further training and completing relevant exams to perform procedures in certain areas (one) as well as a statement that clarifies what should be in certain professionals' scope of practice (four, five). Respondent six made an interesting comment that linked to the banding within the NHS that potentially refers to the tribal differences between clinical scientist and audiologist in terms of scope of practice.

Respondents two and three indicated limited awareness of the different scopes of practice contained within the audiology profession.

Table 62 – Individual comments about scope of practice

Respondent	Comment
1	***I believe the answers to 23 are accurate as long as said audiologist etc has had necessary further training and completed relevant exams i.e., in paediatrics / vestibular*
2	*Has made me realise how little I know about more specialised roles found in hospital setting!*
3	*There is no way I can answer this question in its present form, I have no idea what a clinical scientist or a hearing therapist does or doesn't do - I can only tell you MY scope of practice...... sorry*
4	*I believed Scientists are able to cover all areas except possibly wax removal, but their expertise is concentrated to selected areas*
5	*just want to acknowledge that many hearing therapists are also trained as audiologists and some trained in vestib rehab*
6	*Clinical Scientist should really include highly specialist band 7 audiologists who are working at clinical scientist level*
7	*Scope of practice is down too(sic) individual competency and skillset and not necessary should be restricted to a job title*

The analysis of the questions provided in the survey will now focus on combinations of different questions for comparison of results.

e) *Comparison of Questions 12, 12a., 19, 20 and 22.*

These questions where compared to explore the link between **eligible title** (Q 12 and 12a – pathways to becoming an audiology professional), **preferred title** (Q 22 – which title applies) and **registration** (Q 19 and 20 – selected registration body). The comparison required analysis of the different pathways to determine eligibility which is complex as question 12 only explored the courses and not RCCP accreditation nor HCPC approval of each pathway. RCCP accredited courses can apply for HCPC approval to allow eligibility to register as a hearing aid dispenser with the HCPC, but this is optional. The analysis focused on using the preferred title as a reference point to compare to eligible title and registration as this indicated a level of understanding of the regulation landscape. There are four titles linked to registration in the United Kingdom and two of them are linked to accredited voluntary registers (Audiologist and Hearing therapist) and two to statutory registers (Hearing Aid Dispenser and Clinical Scientist).

Clinical scientist registration is not acquired via the usual HCPC approved route that infers eligibility on graduation but rather a portfolio to be presented (combination of practical and theoretical learning) to one of two approved organisations. They are the Association of Clinical Scientists who awards a Certificate of Attainment <u>or</u> the Academy for Healthcare Science who awards a Certificate of Equivalence. Both certificates lead to eligibility to register with the HCPC as a clinical scientist. Those professionals who consider this pathway can register as an audiologist on the accredited voluntary register as well, so eligibility to register is not an indicator of the choice of register as this is linked to the context of employment.

Professionals who are eligible to register as a Hearing Aid Dispenser can choose not to register with the HCPC if they work in the National Health Service as the context does not involve the sale of a hearing aid. Some pathways have eligibility to register as an Audiologist and a Hearing Aid Dispenser and some registrants prefer to register only as a Hearing Aid Dispenser with the HCPC despite working in the NHS as an Audiologist. Because Audiologist is not a protected title the use of it as a preferred title cannot be regulated.

Of the 310 registered respondents, 220 presented with the correct link between eligibility, preferred title, and registration and 90 presented with a range of

combinations where eligibility, preferred title and registration do not correspond (figure 73). There were 29 respondents who indicated that they were not registered and three of them were still trainees on an eligible pathway (one clinical scientist and two hearing aid dispensers). A further 12 respondents indicated a preferred title linked to accredited voluntary registration and eligibility but with no registration, so they are eligible but have decided not to register. The remaining four respondents indicated eligibility to register with a protected title and only two selected the protected title as their preferred title.

Comparison between eligible, preferred and registered title

Category	Value
Complete link between eligible, preferred and registered title	220
Incomplete link between eligible, preferred and registered title	90
Voluntary - no registration needed	12
Protected title but not eligible to use it nor registered	4
Trainee	3
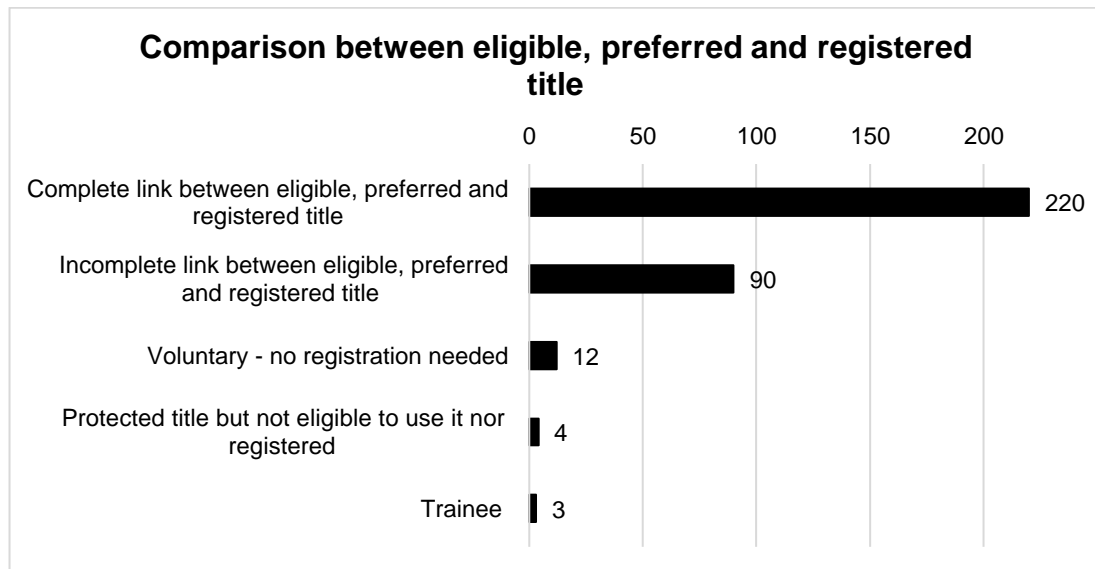
Figure 73 – Comparison between eligible, preferred, and registered title

6.7 Summary of the results and main findings

Data collected from both cohorts of the study provided an opportunity to explore the experience of becoming and being an audiology professional in the United Kingdom. Appendix 15 provides an overview of the demographics of both cohorts as well as visual representations of overlap.

Becoming an audiology professional is a journey that starts with the *first accidental* exposure to the profession (including personal experience of hearing loss and work-based exposure), supplemented by some survey respondents who learned about the profession through career guidance. Accidental exposure to the profession implies that recruitment is based on chance and that the profession of audiology does not compare to Allied Health Professionals or Medicine in terms of public awareness.

The survey respondents expanded on the ***many routes to becoming*** an audiologist and more options appear to exist now compared to the initial learning on the job pathways indicated by the interview participants and discussed in chapters two and three. The education landscape is more complex than it was before the introduction of the BSc (Hons) Audiology and Modernising Scientific Careers programme despite some pathways no longer existing. ***First exposure to audiology*** followed by the ***many routes to becoming*** culminates in ***who am I*** as the many routes often result in multiple titles linked to different work contexts creating a fragmented profession.

The analysis of the many pathways for both cohorts considered the eligible title that will be used on registration – statutory or voluntary. Of the 329 survey respondents and eight interview participants, 231 were eligible to use one title, 63 to use two and three to use three titles based on the pathway taken (Figure 74).
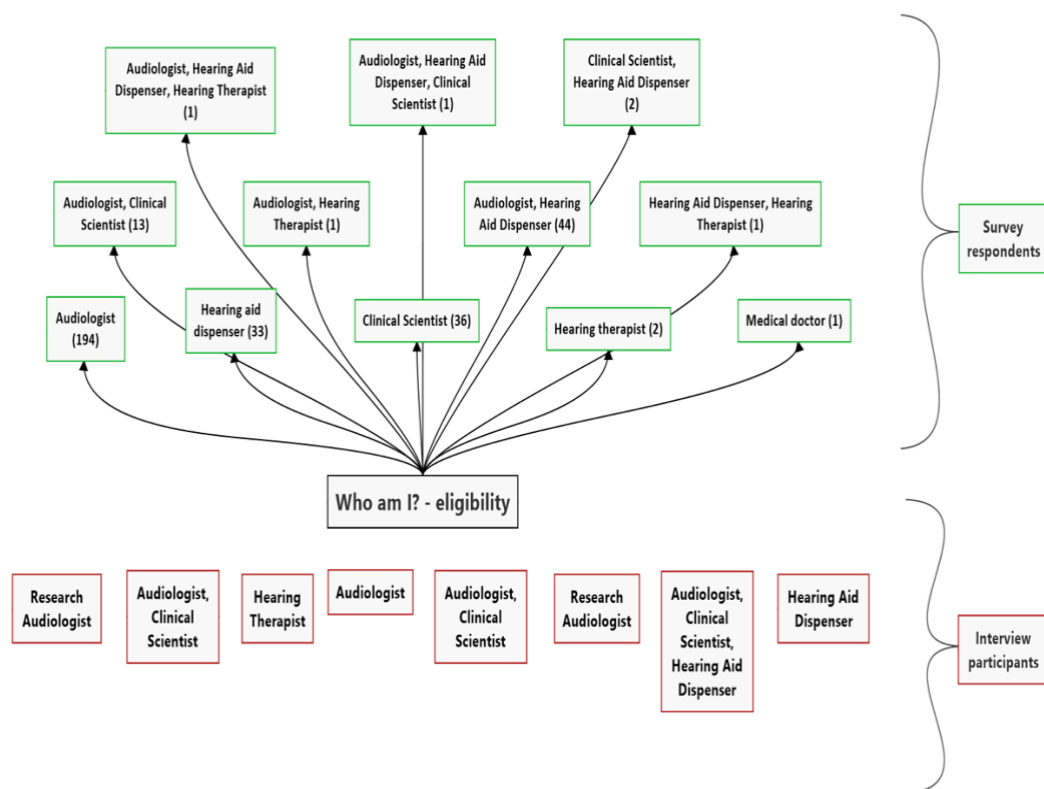
Figure 74 – Overview of eligible titles based on pathway for interview participants and survey respondents

 Figure 75 provides a visual representation reflecting the complexity of the range of titles identified by the interview participants and survey respondents as well as the number of titles per individual.
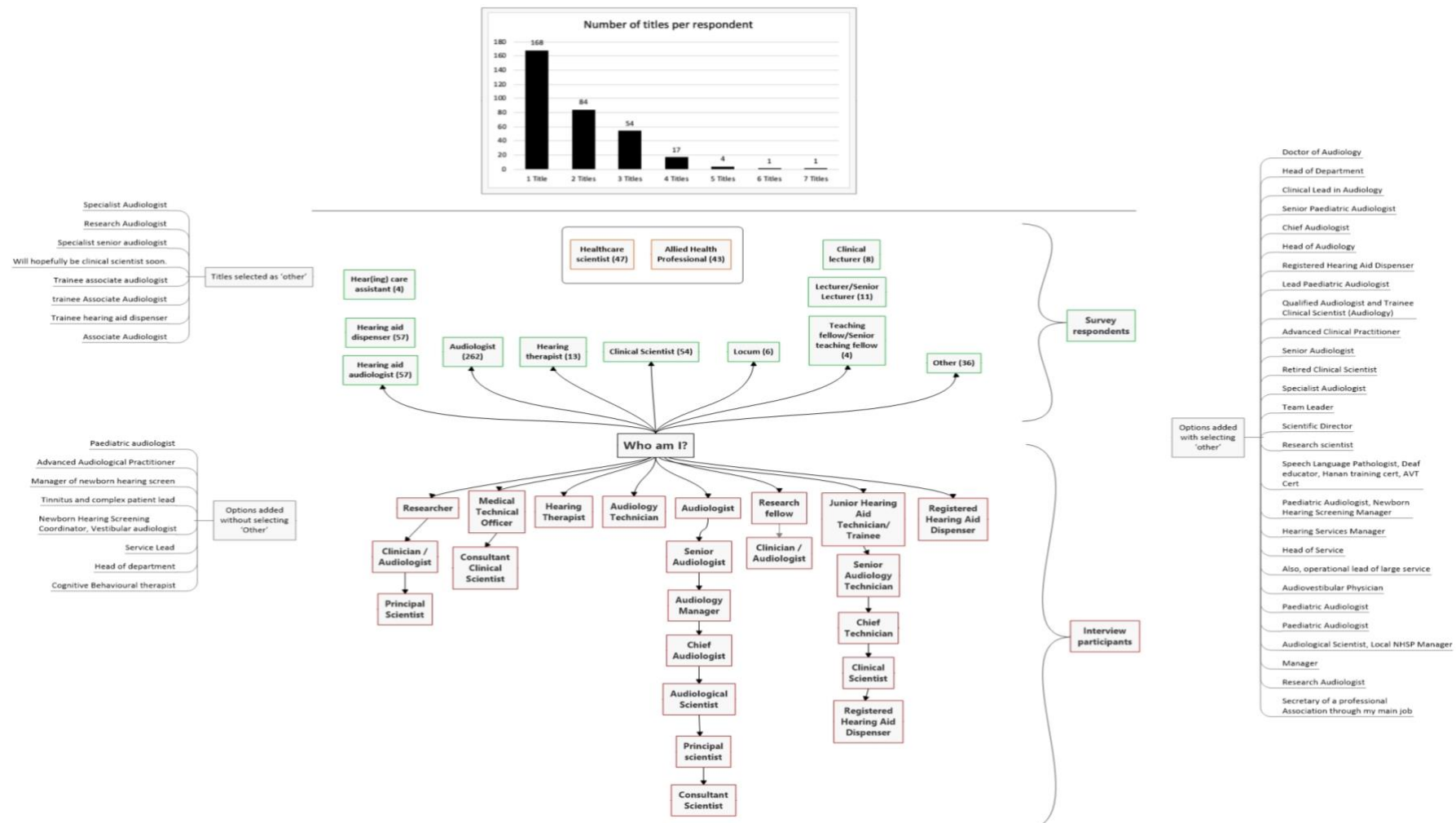
Figure 75 – Summary of preferred titles used across interview participants and survey respondents

The comparison between eligible, preferred, and registered title of the survey respondents indicates that there is understanding of the use of accredited voluntary and statutory titles for 67% of the survey respondents when it should be clear to all audiology professionals.

Being an audiology professional follows on from **becoming an audiology professional** as the individual joins the fragmented profession. Both cohorts provided a picture of what it was like to be an audiology professional in a confusing context (*setting the scene*) exacerbated by the views of the various professionals (tribal members) within that context (*tribal views*), often resulting in motivation to improve themselves or join other tribes (*continuing their own professional development*. **Being an audiology professional** in the United Kingdom is as complicated if not more than **becoming an audiology professional**.

The interview participants provided an overview of **the impact of change in education pathways and service delivery on the audiology professional** by highlighting the influences on the profession, ranging from the individual to the tribes, all within the context of the employer. The *individual's influence* (both internal and external to the profession) contributes to the *influence of the tribes* (the various professional bodies) perpetuating the fragmented profession. The fragmented profession functions within the boundaries of the employer and is essentially at the mercy of the employer *(influence of the employer)* for decisions about education pathways and service delivery structure.

Education changes dictated by the employer impacts the creation and cessation of education pathways and influences the **experience of becoming the professional**. The employer's influence perpetuates the fragmented profession as seen in the increasing complexity of the education pathways represented across both cohorts of this study, resulting in an expanding range of titles.

The structure of service delivery dictated by both the private and public sector employers influence the **experience of being the audiology professional**. The impact of this influence is seen in the fragmented and confused profession working within different sectors across both cohorts of this study, resulting in tribes with an unclear picture of their boundaries and scope of practice. Figure 76 provides a visual

summary of the impact of education pathways and service delivery changes on the profession.
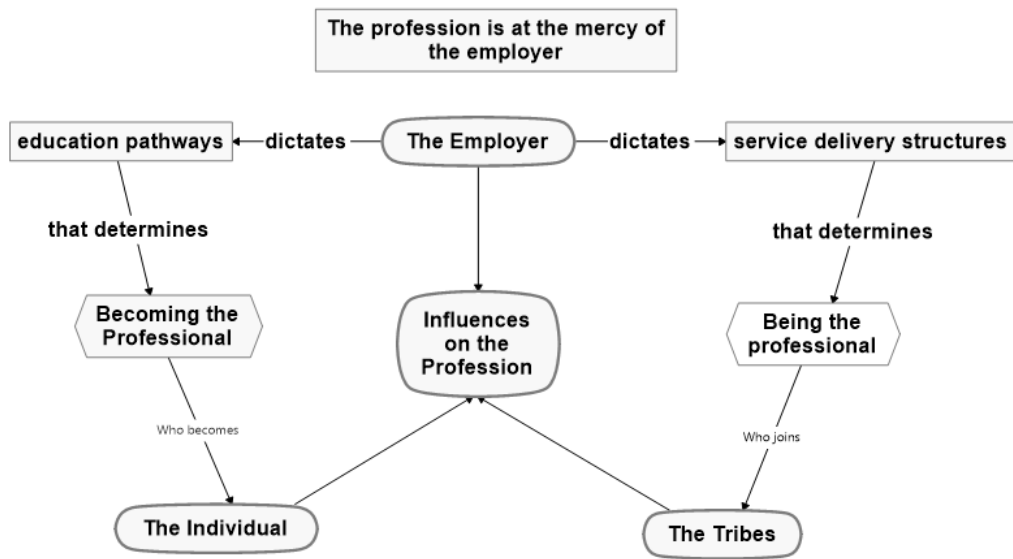
Figure 76 – The impact of education pathways and service delivery changes on the profession

Chapter Seven: Discussion and Conclusion

7.1 Main purpose of the study

This study began as a personal journey to understand the experience of the UK audiology professional to make sense of an unfamiliar context. This unfamiliar context was complicated by challenges and opportunities in service development and education resulting in a fragmented profession with multiple identities. The main purpose of this study was to explore the individual's experience of becoming and being an audiology professional in the context of the United Kingdom, thus adding to the literature about the profession within the broader sociology of the professions.

7.1.1 Research question

What is the experience of audiology professionals in becoming and being an audiology professional in the United Kingdom? The following strands narrowed the focus of the study and will be used to discuss the results:

1.   The experience of becoming an audiology professional
2.   The experience of being an audiology professional
3.   The impact of change in education pathways and service delivery on the audiology professional

7.2 Explanation and interpretation the results and findings from this study

Taking a constructivist approach to analysis allowed me to explore and construct a narrative account of the experience of the audiology professional in the United Kingdom. The narrative account follows the journey from becoming to being an audiology professional specific to the context of audiology in the United Kingdom. The analysis described the journey to becoming an audiology professional in three steps – *first exposure to audiology* followed by the *many routes to becoming* culminating in a fragmented identity linked to the ranges of titles used (*who am I?*). The focus of **becoming the audiology professional** is the individual with a title or combinations thereof.

Being the audiology professional provided a picture of what it was like to be an audiology professional in a confusing, fragmented context (*setting the scene*). The experience is further exacerbated by the views of the various professionals within that context (*tribal views*), often resulting in motivation to improve themselves or join other tribes to improve their standing in the hierarchy of the profession (*continuing their own professional development)*. The focus of **being the audiology professional** is the individual within the fragmented profession (tribes).

Whilst understanding the experience of becoming and being the audiology professional is important, they are in fact pointing to the becoming and being of the profession as part of the professionalisation of audiology. Abbott (1988) considered the formation of a profession as a dynamic process, dependent on the social and professional surroundings as well as the processes it uses to interact with those surroundings. Professionalisation of audiology in the United Kingdom is fragmented and confusing, an ongoing existence perpetuated by the cyclical influences of the individual and the tribes constituting the profession that is at the mercy of the employer. Within the system of professions (Abbott, 1988), audiology adds an additional complexity located in the differentiation within the profession, specifically the influence of hierarchy (the tribes) and the use of title as symbolic capital (Bourdieu, 1985).

The individual aspects of the audiology profession and the environment in which it functions, as identified in the results of this study, will now be explained, and interpreted according to two of the jurisdictional contests identified by Drennan *et al.* (2017) that shape professions within the system of professions (Abbott, 1988). They are the intra-professional contest located in the differentiation within the professions below the systems level and the influence of state agency and societal change, located within the larger social and cultural forces above the system's level. Throughout the discussion the links with the work of Abbott (1988) in relation to the system's environment will be indicated in bold and link back to the context provided in section 3.6.

7.2.1 Differentiation within the profession – intra-professional contests for jurisdiction

The results from this study provide examples linked to the internal differentiation and problem of power as discussed by Abbott (1988) creating intra-professional contests for of jurisdictional at the level of the individual and the tribes with the profession.

Becoming an audiology professional culminates in an individual with a specific title or combinations of titles (who am I?), that starts employment in one of two workplace structures or a combination as part of being an audiology professional. Each employer has different **internal stratification** resulting in superordinate and subordinates, or a hierarchy within the workplace structure (Abbott, 1988). The hierarchy is more pronounced in the NHS and linked to the rigid career structure created by the introduction of the healthcare science career framework. This hierarchy is an example of one of the key concepts of neo-Weberian theory that is based on several factors, including the level of education and training required for the profession, the level of income and prestige associated with the profession, and the degree of autonomy that the profession enjoys (Johnson, 1972; Abbott, 1988).

Within the NHS the fragmentation exists between the professionals, specifically audiologist, hearing therapist and clinical scientist. Hearing aid dispensers can work in the NHS, typically as an associate audiologist adding a fourth fragment. It is important to note that the differentiation between the titles and their scopes of practice varies across the NHS and between the four home countries. Audiologists are part of the Healthcare Science professions and as such follow the Healthcare Science Career Framework. The framework refers to the different qualifications at each level. The framework should be interpreted alongside the Agenda for Change banding system which determine the job descriptions and salary scales within the NHS. See table 71 which expands table 14 to include the typical Agenda for Change banding levels linked to the Healthcare Science Career Framework level.

The interpretation of the framework is complicated by the spread of different individuals at different levels in audiology, some with similar scopes of practice. The survey respondents were asked to select preferred titles and analysis indicated that there is confusion about the meaning and the use of a title especially in relation to employment. Respondents selected the four titles considered in this study but

included variations of the four titles as well as titles linked to job description and or level of skill (figure 75). In the UK titles are linked to academic levels to differentiate between skill and knowledge level but rather than keeping it within the professional title a new title is awarded, like adding yet another root to fibrous root system that is the fragmented profession of audiology.

The awareness of the profession by careers advisors at university, school and adult support services are encouraging and could be included in any future recruitment pathways to promote the profession. However, for this to be effective there needs to be a review of who the professional is (*who am I?*) and consolidation of the routes to simplify the pathway.

The results from the survey respondents representing all four professionals indicated little differentiation between the scope of practice of an audiologist and clinical scientist but indicated that hearing therapists and hearing aid dispensers are believed to have narrower scopes of practice. The order as presented by the survey respondents are audiologist, clinical scientist, hearing aid dispenser followed by hearing therapist. This is an example of jurisdictional stratification (Abbott, 1988) linked to the distribution of authority and control over specific areas of professional practice.

Further analysis of the responses to this question indicated a differentiation between adult and paediatric populations (**client differentiation** (Abbot, 1988)) across hearing aid dispensers and audiologists/clinical scientists as well as procedures within the areas of vestibular assessment and rehabilitation and advanced audiological assessment. This level of differentiation corresponds with the international understanding of audiology (Goulios and Patuzzi, 2008; Steenkamp and Hougaard, 2015). Interestingly, interview participants one, two and seven referred to historical debate about the division between the audiology technician and the clinical scientist or audiological scientist and stated that it is unclear in terms of audiological procedures and patient population and that the difference is often linked to academic level of study.

Clarifying the scope of practice of each of the four audiology professionals is influenced by the interpretation of the healthcare science career framework. The

framework is based on educational qualifications denoting a level of practice and specialisation and advanced practice. In healthcare science entry to the profession is considered at graduate level and all titles situated above the graduate level indicate specialisation and advanced practice but not necessarily an extended scope of practice. Within this framework the practitioner (BSc level) sits below the clinical scientist (MSc level) and above the associate (Foundation degree).

The profession of audiology interprets this hierarchy by applying historical titles within the profession linked to the perceptions of one being better than the other as mentioned by participant two, in reference to the perception of elitism when engaging with the scientist tribe. So typically, the clinical scientist sits above the audiologist and the audiologist above the hearing aid dispenser based on the academic qualifications within the career framework. This application continues the existence of the tribes established by the historical development of the profession discussed in chapters two and three, and the regulation landscape as two of the levels in audiology (MSc and Foundation degree) are statutorily regulated. This is an example of stratificational stratification (Abbott, 1988) linked to the hierarchical ranking of professionals in a specific field.

It is my opinion that Freidson's (1986) view on the value of internal differentiation can provide a more positive outcome than the contests of jurisdiction described by Abbott (1988). He defines internal differentiation as the process of dividing a profession into several sub-specialties which aligns to a degree with the internal stratification proposed by Abbott (1988). According to Freidson (1986) internal differentiation allows professions to increase their market share and to improve their bargaining power with clients and employers. As a profession, audiology demonstrates a well-established market share and instead of dividing the profession by hierarchical ranking and contests for jurisdiction it should focus on using the combined market share as a bargaining tool to manage the influence of the employer better.

It is worth noting that survey respondents listed entry level qualifications in audiology at MSc level not directly linked to clinical scientist registration or modernising scientific careers programme (STP). This specific MSc pathway allows entry to the clinical scientist pathway through equivalence as well as entry to the profession at practitioner level (**Power (Abbott, 1998)**). This differentiation was supported by analysing the

responses from respondents who selected this course and comparing it with their registration status.

A further complication in using the healthcare science career framework is that entry to the profession of audiology is situated at the level of the associate which corresponds with the hearing aid dispenser (foundation degree), despite the narrower scope of practice. The entry level linked to statutory registration is an anomaly in the healthcare science profession and might explain why employers like Specsavers are claiming the title of audiologists in the private sector linked with the fact that audiologist is not a protected title. The use of audiologist is an example of an occupational group that uses a name that includes them into a larger group that is sufficiently broad enough to contain agents occupying positions superior to their own by playing on the fact that the title is unprotected but perhaps provides a better standing in society (Bourdieu, 1985).

Interview participant two mentioned the view that the audiology graduate should also be the entry level to the private sector (hearing aid dispensers) but the lead in time of a four-year degree did not meet the needs of the sector at that time. Had the private sector decided to pursue the graduate level entry the distinction between hearing aid dispenser and audiologist would likely not have existed, resulting in one less intra-professional contest for jurisdiction. The title of hearing aid dispenser would then refer to the ability to legally dispense hearing aids in the private sector denoting a type of service and not scope of practice, potentially simplifying progression in and understanding of the profession.

Hearing therapy is an anomaly in the application of the career framework and sits at the edges of the intra-professional contest for jurisdiction as it is a specialist area within audiology and not specific to the curriculum for modernising scientific careers. New pathways in hearing therapy are in development alongside postgraduate training but at present the interpretation of where it might sit within the framework is complicated, but it is likely at or above the level of the practitioner.

Currently professionals located at lower levels within the hierarchy are required to change professional identity to progress in the following order – from the hearing aid dispenser to audiologist and audiologist to clinical scientist. Some of the survey

respondents indicated the BSc (Hons) Audiology (top up) degree in their list of elected qualification in combination with the foundation degree course leading to statutory registration as a hearing aid dispenser. In terms of regulation the order of this progression is statutory regulated to accredited voluntary and back to statutory. In addition, if a clinical scientist wishes to dispense hearing aids in the private sector, they will need to maintain the hearing aid dispensing registration as well. The movement between titles and across and within workplaces are evident across the results for both cohorts and can be seen in the combinations that survey respondents listed in terms of qualifications. There are several clinical scientists and audiologists who are also hearing aid dispensers and audiologists who became clinical scientists.

Moving between the different levels, fractures the professional identity of the professional and in turn changes their viewpoint – affecting the influence of the individual on the profession. The individual will be required to merge what is seen as two different protected titles within the UK audiology profession. The change in identity is linked to the perceptions of the tribes or tribal views as captured by one of the interview participants who stated that their decision to move between tribes improved their standing in the profession. This strengthens the evidence of the hierarchy within the profession as it implies that there are superordinate and subordinates (Abbott, 1988).

Participant one challenged the decision to create an audiological scientist in the 1980s as they thought it was a *"stupid idea"* as it implied that there was something about being an audiologist that that was not a scientist. These perceptions came in part from the professional organisations as before the BAA there were two professional organisations representing clinical scientists and audiology technicians with a third representing hearing therapists. Creating this differentiation between scientist and audiologist continued in the BSc (Hons) Audiology curriculum as curriculum designers at the time placed specialist areas (paediatric assessment and habilitation; vestibular assessment and rehabilitation; advanced audiological assessment) at assist level implying that they assist with these procedures. As the graduate from the BSc (Hons in Audiology is linked to title of audiologist it perpetuated the perception that there is a difference between scientist and audiologist.

The different education pathways and linked titles remain, and the tribal views continue within as well as between the remaining professional organisations, BAA and BSHAA, representing the NHS and private sector. The introduction of the Modernising Scientific Careers (MSC) programme brings new education pathways and titles supporting participant seven's statement that the tribalism has moved from clinical practice to the education system.

The **workplace differentiation and career patterns** (Abbott, 1988) perpetuates the influence of the individual as the profession presents with demographic rigidity. This rigidity is supported by results of this study, specifically linked to the number of audiology professionals who completed more than one audiology qualifications often at different academic levels. Lack of funding can restrict options but completing further study does not guarantee movement to a higher level. This rigidity complicates the ability of individuals from other tribes or with more collective viewpoints to represent the profession at a higher level.

The individual is part of a tribe, sometimes more than one, and the tribe can shape the views of the individual. The audiology professional exists within a fragmented profession but the influence of the individual, as demonstrated by the interview participants, can bring about change as part of the intra-professional contest for jurisdiction (Drennan *et al., (*2017). However, the impact of this change is dependent on the views of the individual and their motivations linked back to their position within the hierarchy. The **internal stratification** of the audiology profession, brought on by the employer (**power**), places the individuals (and often their tribes) in higher positions with a risk of the individual <u>not</u> representing the collective voice of the profession highlighting the need to clarify the professional identity of the individual to begin the shift needed to unify the tribes (Abbott, 1988).

The application of the healthcare science career framework promotes the tribe of the clinical scientist at the top of the structure with positions as consultant clinical scientists leading services. Health Improvement Wales (2022) published guidance on the role, recruitment, training, and development of consultant clinical scientists in Wales with the following recommendation. By the 31st of December 2022, individuals applying for a consultant clinical scientist post in Wales must be on the Higher Specialist Scientific Register with the AHCS. This recommendation indicates the level

of skill and knowledge needed for the role within the NHS but should be separated from the professional identity of an audiology professional. Representation and focus at higher levels on one specific tribe in audiology in turn influences the progress towards professionalisation as it is influenced by the tribal identity of the individual. Participant two stated that being a consultant clinical scientist improved their status within the profession reflecting the influence of the individual in high positions.

Focusing on the specialist levels of the profession is important but not at the expense of the professional offering routine or generalist care (Stressing and Borthwick, 2014). Audiology should take note of concerns raised by the profession of podiatry of the impact of workforce redesign policies on role boundaries linked to the projected increase in demands on the health service linked to the ageing population. Historical events in audiology indicated surprise at the increased demand with the introduction of the MEDRESCO hearing aids in the 1940s in the NHS resulting in increased waiting lists as well as the modernisation of hearing aid services in 2000 again resulting in long waiting lists in the NHS. The reduction of waiting times for hearing aids in NHS adult services are inextricably linked to generalist practice in Audiology.

Intra-professional contests for jurisdiction in audiology are fuelled by the state's approach to regulation of audiology professionals and has a direct impact on the individual in the profession. It distances the title from the tasks (the work) the individual must perform and does not support the individual's ability to clearly see the boundaries of their practice, due to the complex **division of labour** in the profession (Abbott, 1988).

7.2.2 Larger social and cultural forces – influence of state agency and societal change

The results from this study provide examples linked to the larger social and cultural forces playing a role in the systems of professions as discussed by Abbott (1988), specifically the influence of state agency and societal change at the level of the profession but in turn affecting the individual and the tribes with the profession of audiology.

For audiology in the United Kingdom the state is closely linked to the main employer of audiology professionals which is the National Health Service. The NHS is not only

an example of a large-scale organisation that can **open and close jurisdictions** within the system of professions (Abbott, 1988) but also provides the structure that organises the professional work by denoting the internal division of labour (**internal organisation of professional work**).

Within the system of professions (Abbott, 1988), the state plays a significant role in terms of legislative authority in audiology, essentially dividing the profession and impacting the use of titles (**changing audience of jurisdictional claims**). The impact is evident from the survey responses where only 67% of respondents demonstrated an understanding of the statutory titles and some examples included the use of titles like audiological scientist which is the historical title of clinical scientist as well as hearing aid dispensers who refer to themselves as audiologists. The barrier to resolving the understanding and (mis)use of titles is the regulatory approach employed by the state that allows the use of audiologist to refer to anyone delivering hearing care so long as they do not use the title of hearing aid dispenser and or clinical scientist.

The tribes can act as four separate professions depending on the location of the jurisdictional contest which is not conducive to a collective professional voice. The survey respondents provided a complex picture of working in the profession where a portion of respondents indicated that they work across both the NHS and private sector. This complicates the study of the profession within a system of professions as there are jurisdictional disputes and competition within the profession. An example of competition can be seen between the two employers as seen by service delivery changes implemented by the state (introduction of AQP and PPP) (**co-optable powers and the new class, Abbott (1988).**

The impact of the competition between the employers can be seen at the level of the audiology professional as a tension between character values and social origins at the one end and efficiency of service and rationalisation of techniques at the other (**new forms of legitimacy (Abbott, 1988)**). An example of this can be seen where survey respondents provided reasons for moving between the NHS and the private sector with codes identified as follows (table 63).

Table 63 – Motivation for movement between the sectors

NHS to private sector	Private sector to NHS
Disillusioned by the NHS	Disillusioned by private sector
Offer more to patients	Not selling
Private salary and personal	Variety of the NHS

The four tribes acting as separate professions competing for professional status is an example of a key concept of professional status within the neo-Weberian theory. Professional status according to neo-Weberian theory is based on several factors, including the level of education and training required for the profession, the level of income and prestige associated with the profession, and the degree of autonomy that the profession enjoys (Johnson, 1972; Freidson, 1986 and Abbott, 1982). In audiology, profession can be replaced by tribe as the tribes may function as separate entities, but all exist within the UK profession of audiology.

The consequence of working across the NHS and private sector can create confusion within the profession as professionals will then move between titles and scopes of practice, often within the same working week fragmenting the professional role. An example would be an audiologist working with adults with learning difficulties in the NHS for three days a week and then as a hearing aid dispenser in the private sector for two days. This will mean that they may not be able to see the same patient population when working as a hearing aid dispenser and must comply with referral criteria that would not apply in their NHS practice. There is an additional complexity in this statement as the statutory regulator of hearing aid dispensers (HCPC) recognises there may be a need to move into a new scope of practice and that it is important to address gaps in knowledge, skills and experience with additional training or support. The level of knowledge, skills and experience required for the role will be informed by the employer and relevant professional organisation's advice. Therefore, a hearing aid dispenser can include the population mentioned above without adjusting the title of registration, if the audiology professional is suitability qualified (HCPC, 2021)

The **rise of universities (Abbott, 1988)** depicting the move from vocational based courses to graduate level university-based courses is evident in the range of different qualifications listed by survey respondents. These responses document the move

from learning on the job via professional exams (e.g., BAAT Parts 1 and 2). At times this was combined with some profession specific or linked theoretical study at undergraduate (e.g., BTEC National certificate in Medical Physics and Physiological Measurements) and or postgraduate (e.g., MSc in Audiology) level. The move from education under the control of the profession to the control of universities created an opening for the influence of the employer resulting in the introduction of more pathways to join and specialise.

7.2.3 Impact of the contests for jurisdiction

Understanding the impact is linked to considering which influence came first. The individual or the tribe or the employer? The tribe influences the individual in turn not representing the collective professional voice that influences the employer that in turn perpetuates the tribe and the tribal views that influence the individual who forms part of a tribe. And so, the cycle continues.

The interview participants identified the influence of the employer on education pathways and service delivery structures creating a unique context where the employer can divide and conquer to achieve its aims, highlighting that the profession is at the mercy of the employer. The impact of the profession being at the mercy of the employer is that it perpetuates the fragmented profession thereby influencing the ability of the profession to work towards social closure. This is supported by Abbott's (1988) system of professions and the dynamic environment it creates through its influences on the social and cultural environments. The employer wants to dictate what the professional does in terms of service delivery as well as tailoring the educational content to its needs. The cyclical nature of the events affecting the profession and the profession's reactive approach to managing the influences of the individual, the tribes, and the employer adds another layer for the profession to consider.

The audiology profession in the UK is a system within a broader system of professions, specifically a profession with a fibrous root system. The ability of the profession to weather the impact of continuous changes brought on by *internal differentiation and the problem of power* within the profession and the *social and cultural environments of professional development* acting on the environment in which

the professions perform their tasks (Abbott, 1988), is at the heart of the tackling the confusing context.

a) Impact on becoming the audiology professional

The impact of the employer on the education pathways creates a vicious cycle of different titles that repeat with each cohort of graduates, affecting the experience of becoming an audiology professional. The state plays an active role in perpetuating the tribes through the approach of regulation resulting in two statutory and one accredited voluntary title. The UK system of regulating professionals complicates the identity of the audiology professional as only two of the four are statutory regulated. This complexity adds to the intra-professional jurisdictional contest and is for the moment at least outside the power of the individual and indeed the profession. If the individual in the profession struggles to understand the fragmented jurisdiction, then how can the public and other professions be expected to understand. How will patients be able to determine if they are seeing the right professional or know what level of service to expect.

Abbott (1988) considers the work the professions do as the focus of professionalisation in his system of professions, but the title is important as well to create a professional identity as part of achieving social closure. Bourdieu (1985) emphasised the use of the title as a mechanism to protect and continue the work the profession does. The fragmented profession with its different titles hampers the ability of the profession to defend and maintain the work of hearing care across the NHS and private sector.

The audiology professional potentially plays a role in the recruitment of individuals to become audiology professionals. Clarifying the professional identity should improve recruitment for future professionals.

b) Impact on being the audiology professional

The impact of the employer on service development and internal stratification (Abbott, 1988) based on the healthcare science career framework, affects the experience of being the audiology professional. The employer perpetuates the tribal views through the Agenda for Change banding structure (salary) and the Healthcare Science Career Framework (education level) creating different levels linked to specific education

pathways and at times specific titles. There is a further divide between the private sector and the NHS adding a layer to the different tribes, one of competition.

The challenge to the profession is twofold, firstly to merge the fragmented profession and defining the collective identity and secondly to tackle the use of titles as symbolic capital (Bourdieu, 1985) despite the impact of the regulatory framework. At the heart of the regulatory framework sits the safety of patients therefore the focus should shift from the employer to the audiology professional to ensure that patients are able to determine if they are seeing the right professional and know what level of service to expect.

7.3 Implications of the research for consideration by the profession

The implications for the profession rests on the ability to identify areas that are within its control to influence and or change so that they can withstand the influences and contests for jurisdiction both above and below the system. Merging the fragments within the profession should improve the collective voice of the profession, thereby strengthening the fibrous root system resulting in a stronger professional identity.

Reflecting on the results of this study, table 64 provides an overview of areas identified that are located within the locus of control of the profession and areas without.

Table 64 – Areas within the profession's control

Within the profession's control	Out with the profession's control
Creating a collective professional voice. Strengthening the professional identity. Merging the tribes/professional bodies. Changing how the profession uses regulation and titles. Defining scope(s) of practice. Fostering a proactive approach to change. Separate professional identity from job description and levels of practice within the employers.	Changes in service delivery. Introducing new education pathways. Demands of the employer (both NHS and private). Regulatory approach applied by the state.

Clarifying education pathways and introducing new ones. Promoting the profession.	

The work for the profession begins by focusing on the audiology professional **outside of the employer** and the first step is combining the fragments to create a strong unified professional identity outside of the context of the employer (NHS and private sector). Combining the fragments will capitalise on the influence of **the individual** on the profession as identified by the interview participants by providing a stronger collective voice for the profession based on clear division of labour (Abbott, 1988). A top-down approach would consider the profession of audiology as the collective, recognising that employment will determine the division of labour and use of titles linked to scope of practice and regulation that meets the demands and work structure of the employer. The audiologist is a healthcare scientist within the broader family of healthcare science, like the speech and language therapist within allied health professions.

The range of titles used by professionals creates a confusing context. The confusion could be cleared up if professionals consider the title linked to regulation as part of demonstrating their job description and roles. This varies across employment sector, but the regulated title is linked to qualification and a remit which is universal. Even the titles used in joining the accredited voluntary register is linked to a specific qualification. Clinical scientist is a protected title, but the essence of the title is not linked to a scope of practice but rather to employer specific knowledge linked to the workplace structure. Therefor the use of the title denotes a level of knowledge and skill as well as leadership within a work context and it is used for other profession in healthcare science, so it is not unique to audiology. BMJ careers' website (2021) defines the clinical scientist as follows: "The job title is applicable to an extensive range of roles that are grouped into four domains – clinical bioinformatics, life sciences, physical sciences and clinical engineering, and physiological sciences – and subdivided into specialisms."

A unified professional identity will support promoting the profession to raise awareness to reduce the number of audiology professionals joining the profession accidentally or just linked to work-based training and personal experience.

To capitalise on the influence of **the tribes** a strong unified professional organisation outside of the context of the employer (NHS and private sector) is needed. The UK professional organisations in audiology namely the British Academy of Audiology, the Association of Independent Hearing Healthcare Professionals, the British Society of Audiology, and the British Society of Hearing Aid Audiologists <u>must</u> merge with a focus on the audiology professional as a separate entity from the employer (NHS and private sector). Careful consideration should be taken in selecting the appropriate individuals to lead this merger to negate the potential influence of the individual and or tribes in shaping the collective voice.

The **influence of the employer (state) is outside of the control of the profession** as it is not limited to audiology but affects other professions in healthcare as well. Initiatives in service delivery and education for the NHS and the private sector will continue as the UK health service recognises that the ageing population will require professions to work across traditional boundaries and consider new ways of working (Borthwick and Ball, 2018). Borthwick and Ball (2018) also argue that the policies designed to create a sustainable health service do not always acknowledge the true nature and character of the professions. Reviewing how other professions such as nursing and podiatry view the policy changes and service development, can provide insight in how audiology can manage the impact within the context of an ageing population, and the demand on health and social care it brings with it (Stressing and Borthwick, 2014; King *et al.,* 2015).

Regulation of professions is unlikely to change with the current government in place, so it is up to the profession to identify and clarify the roles of the audiology professionals. Every audiology professional start as a member of the profession at the entry point to their career and gain experience and or further education to reach a level of experience and skill and this is where the job title comes in, but they remain a regulated audiology professional – statutory or accredited.

The audiology profession should focus on developing resilience in the individual and the profession. It can do this by establishing an identity that is universally applicable to hearing care and fostering resilience in future graduates to facilitate the ability to deal with change, without sacrificing their identity.

The many routes to becoming an audiology professional are linked to the range of titles used by audiology professionals. The review of the Practitioner Training Programme (PTP) presents an opportunity for the profession to review practitioner level provision of audiology courses as well as streamlining the link between the hearing aid dispenser and audiologist pathway. The profession must clarify progression in the profession so that the pattern of doing more than one audiology pathway leading to the same result is discontinued. There is potential to perpetuate the tribes through education pathways as they are viewed as separate rather than building on each other with individuals potentially perpetuating the elitist views mentioned by the interview participants. Continuing professional development should focus on advancing practice and not to join another tribe.

7.4 Limitations of the research

The data collected in both stages of this study might not be able to be generalised to the profession as it is not known if the sample was representative of the overall population. The fractured nature of the profession and lack of consistent regulation means that it is very difficult to reach the full range of audiology professionals in the United Kingdom. However, this study does provide insight into the experience of becoming and being an audiology professional in the United Kingdom.

On reflection, what seems to have come out of the interviews are the perceptions of the different tribes so I would have liked to have explored the perceptions of the different tribes to interpret this data.

The focus for this study was very specific to one profession and there is limited evidence provided of the links to other professions within the same context of the NHS. It did not consider the role of medical dominance in the hierarchy or indeed where healthcare science sits within the broader workforce. This potentially broadens the impact of the employer and increases the collective voice of the professions.

Stage two of the data collection commenced in March 2020 at the beginning of the COVID-19 pandemic which may or may not have influenced the number of responses received to the survey.

7.5 Recommendations for further research

Exploring the public's understanding of the different audiology professionals.

The survey focused on audiology professionals working in healthcare, but it is important to note the overlap with education, especially in the historical provision of paediatric hearing health care. The link with education applies specifically to teachers of the deaf and educational audiologists. Exploring the experience of these two professionals within the context of audiology in the United Kingdom as well as their perceptions and understanding of the different audiology professionals.

Exploring the nature of the tribal views within the fragmented profession and perhaps exploring their understanding of the other tribes and their skills.

Research focused on increasing the shared understanding of the different audiology professionals.

Exploring other healthcare professional's understanding of the different audiology professionals.

Comparing the origins and evolution of the audiology profession with other professions within Healthcare Science to explore similarities and differences. The professions with Healthcare Science are viewed as a collective but their individual aspects should be fostered to ensure a clear professional identity.

Exploring the commonalities across professional groups in healthcare within Abbott's (1988) system of professions

Comparing the origins and evolution of the audiology profession in other countries to foster a global identity to promote the role of the audiology professional.

Exploring the impact of the NHS banding system on the audiology professionals' perception of their scope of practice.

7.6 Conclusion and Final Thoughts

The experience of the audiology professional in the UK was explored using a constructivist view within a mixed methods approach to capture the experience of as many audiology professionals across the UK. I began this journey bringing my own individual views as an audiology professional, influenced by the tribe (audiologist) that has been a part of my identity since 2000. The context of the audiology professional in the UK was unfamiliar to me and challenged my views and required a review of my identity. This personal experience motivated the need to understand the experience of the audiology professional in the UK. Exploring the experience of the audiology professional provided an opportunity to add knowledge about the origins and evolution of the profession including the many changes in service delivery and education. The results sketch a fragmented profession divided by titles, professional organisations, and regulatory bodies as well as many education pathways across the private sector and the NHS.

This study helped to understand the history and to appreciate how the fragments or tribes evolved and where the attempts to grow as a profession were thwarted and by whom. Abbott's (1988) system of professions provided a lens to explore what is and is not within the control of the profession to influence or change. There will always be influences on the profession as demonstrated within the system of professions by Abbott (1988), but the profession needs to be better at recognising the cycles (section 3.8) and in short "smell the cheese" and prepare for the shift that is inevitable (Johnson, 1999).

This thesis provides the profession with a narrative to consider how to go forward effectively using the influences of the individual, the tribe, and the employer to bring about change. Change is part of life as an audiology professional considering the turnover of technological advancement on our practice. Perhaps the constant change in hearing technology hampers the professional's resilience to deal with more change in working context and identity. It is hoped that this study will raise awareness of the issues and help to foster more resilience in the individual audiology professional as well as a collective of people working in hearing health care in the UK. Recognising the cycles of change affecting the profession could well support the move away from the reactive existence to a more proactive, cohesive, and developing profession.

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Appendices

Appendix 1: The impact of modernisation on the professional (Taken from the PHIS report (2003))

	Recommendation	Rationale
3	Breaking the news to parents of a newly diagnosed deaf child should be done by a professional with experience and knowledge of child development and the support and education options for deaf children, with sufficient time and in privacy. The appropriate support personnel (e.g. education, speech and language therapy etc) should either be introduced at that time or informed promptly to ensure immediate and ongoing support and information sharing as desired by parents.	The way in which confirmation of their child's hearing loss is broken to families can have a profound effect on how they cope and on their subsequent relationships with the professionals in health and education services, including audiologists. The family's confidence in the information and in the advice which they are given is affected by the way that the news is broken, and the whole habilitation process can be jeopardised if this is not done well. It is essential that this is handled appropriately by a person who is able to provide adequate information on what to expect and what is available to children. As many families report that they are unable to take in all of the information with which they are provided at this time, and as reactions to such a diagnosis will vary on an individual level, it is essential that families are given adequate support and follow-up in the period immediately following the confirmation of hearing loss.
32	The Scottish Executive Health Department and NHS Boards should develop a clear understanding, acceptance among professionals, and implementation of the differing roles of audiology Services as both independent clinicians responsible for all aspects of a patient journey (as instanced by direct referral by GPs), and as providers of	Audiology developed as a sub-speciality whose main purpose was to provide ENT surgeons with information regarding hearing status, primarily for the purposes of either pre-or post-operative assessment. As such their role was, and in this context remains today, restricted to that of information provision with little or no interpretation, and no responsibility for management decisions or implementation. The range of assessments and tests which audiology now provides within this context has developed and increased.

	technical and diagnostic assessment information to medical specialists.	The development of hearing aid services, and particularly the advent of direct referral (whereby patients meeting suitable criteria can access audiology services without first being referred to medical staff), has resulted in audiology services assuming the responsibility for the complete management of patients without any interaction with or responsibility to ENT surgeons. The current relationships and structures for audiology do not reflect these dual roles and lead to inconsistencies in the scientific, clinical, managerial and financial domains. There is not a clear understanding of the differing roles either by audiologists or by ENT specialists.
34	ENT clinics should be configured and structured to maximise the efficient use of audiological resources in their provision of support to ENT services via the use of specialist outpatient clinics where geographical circumstances allow. Audiology services should be reconfigured to offer the most cost-effective service to ENT.	Although sub-specialisation is becoming increasingly common in ENT Departments, there are still many examples of general ENT clinics for which audiology resources are required (in their technical support rather than independent clinician role) to provide information regarding hearing status. Such clinics carry a variable and unpredictable workload for hearing testing and are perceived, both by audiology and ENT, as inefficient use of Audiologists' time. Although due regard has to be paid to the unpredictable nature of referrals and clinical demands, particularly in peripheral sites, subspecialisation into otology, rhinology and laryngology clinics will result in more efficient use of audiology time by a relative concentration on otology clinics as opposed to laryngology and rhinology. Given the substantial residual support role to ENT, audiology services should be re-configured to deliver services to ENT in the most cost-effective manner.
35	In view of current shortfalls in staff training and expertise, NHS Trusts should institute a process of in-service professional development and training to ensure competence in modern assessment, hearing aid fitting and evaluation, and other	The audits of current service provision and comparisons with the English and Welsh systems (both pre- and post- modernisation) as well as a number of good practice guidelines on staffing levels in audiology departments provided evidence of a lack of staff training and expertise in audiology staff. The skill-mix currently available within Scottish departments shows a much lower reliance on specialist and advanced grades such as audiological scientists and hearing therapists. In

	rehabilitative techniques as part of a comprehensive modernisation programme.	many areas there are no identifiable, established training and development budgets for audiology staff. Experience elsewhere in the UK has shown that adequate training and development of staff is a prerequisite for the introduction of a modernised audiology service.
37	In parallel with longer-term increases in specialist (e.g. Audiological Scientist and Hearing Therapist) skills via new recruitment, NHS Trusts should develop and implement interim programmes of professional development to develop clinical, scientific, managerial and financial leadership in existing senior staff.	Recent developments in the technology, equipment and rehabilitative techniques available to audiology staff have not been matched with adequate training to ensure that staff has the technical expertise to make full, effective use of the above. Only 7 out of 22 audiology units reported the existence of an established training budget. There is a wide variation in knowledge and leadership skills in finance/business management and service development within audiology departments. Many audiology managers have had little or no experience of managing budgets. Some have control of their own budgets and are regularly involved in the production of business plans and business cases. With the recommendation that audiology departments separate from their ENT colleagues, it is important that all senior audiology receive adequate training in and development of their managerial and financial competencies. It is likely that consortia of Trusts and NHS Boards will be required to deliver an effective programme.
38	NHS Boards should initiate the training and recruitment of additional Medical Technology Officer Audiologists and new specialist staff (e.g. Audiological Scientists and Hearing Therapists) as soon as possible to address	Overall staffing levels for audiology services in Scotland are comparable to those in England and Wales prior to their investment in modernised services. Scotland as a whole has a relative under-investment in specialist Audiological Scientist and Hearing Therapy staff, and in Clerical Support staff. Staffing levels in Scotland fall short of the various recommendations for the delivery of good practice

	medium and long term capacity deficits. In view of current shortfalls, additional Assistant Technical Officer and Clerical staff should be recruited as an immediate step to release trained staff for service development.	modernised services. The modernisation of hearing aid services in Wales and England uncovered a shortage of trained audiology staff to meet the surge in demand which followed modernisation. Programmes must be put in place immediately to ensure that staff members are available to meet the demands of a modernised service. The comparative skill mix of Scottish and English centres indicated that Scotland had considerably fewer assistant technical officer and clerical grade staff than was found elsewhere. Audiology staff in Scotland was thus spending a significant amount of time on tasks which could be conducted by staff on less skilled grades. In the short term, employment of additional staff on these grades would free audiology staff time to spend more time undertaking the more skilled aspects of their role.
42	The Scottish Executive Health Department and NHS Boards should plan the future development of audiology in the light of current levels of un-met need and the projected increases in numbers of hearing-impaired people which will accompany future changes in the age profile of the population.	In adults, the prevalence of hearing impairment rises steeply in older age groups. Even if the percentage of the population who come forward for assessment and management remains constant, the changing demographic composition of the population will result in a sharp increase in demand for services. In addition, published epidemiology studies in the UK have revealed high levels of unmet need for audiology services. As improvements in rehabilitation and in hearing aid technology result in an increased use and benefit within the population, there is a high probability that more people will come forward for assessment and management of their problems.

Appendix 2: Healthcare Science Career Framework Key elements

Key Elements of the Career Framework

Skills for Health

9 **Career Framework Level 9**
People working at level 9 require knowledge at the most advanced frontier of the field of work and at the interface between fields. They will have responsibility for the development and delivery of a service to a population, at the highest level of the organisation. **Indicative or Reference title: Director**

8 **Career Framework Level 8**
People at level 8 of the career framework require highly specialised knowledge, some of which is at the forefront of knowledge in a field of work, which they use as the basis for original thinking and/or research. They are leaders with considerable responsibility, and the ability to research and analyse complex processes. They have responsibility for service improvement or development. They may have considerable clinical and/or management responsibilities, be accountable for service delivery or have a leading education or commissioning role.
Indicative or Reference title: Consultant

7 **Career Framework Level 7**
People at level 7 of the career framework have a critical awareness of knowledge issues in the field and at the interface between different fields. They are innovative, and have a responsibility for developing and changing practice and/or services in a complex and unpredictable environment. **Indicative or Reference title: Advanced Practitioner**

6 **Career Framework Level 6**
People at level 6 require a critical understanding of detailed theoretical and practical knowledge, are specialist and / or have management and leadership responsibilities. They demonstrate initiative and are creative in finding solutions to problems. They have some responsibility for team performance and service development and they consistently undertake self development. **Indicative or Reference title: Specialist/Senior Practitioner**

5 **Career Framework Level 5**
People at level 5 will have a comprehensive, specialised, factual and theoretical knowledge within a field of work and an awareness of the boundaries of that knowledge. They are able to use knowledge to solve problems creatively, make judgements which require analysis and interpretation, and actively contribute to service and self development. They may have responsibility for supervision of staff or training. **Indicative or Reference title: Practitioner**

4 **Career Framework Level 4**
People at level 4 require factual and theoretical knowledge in broad contexts within a field of work. Work is guided by standard operating procedures, protocols or systems of work, but the worker makes judgements, plans activities, contributes to service development and demonstrates self development. They may have responsibility for supervision of some staff. **Indicative or Reference title: Assistant/Associate Practitioner**

3 **Career Framework Level 3**
People at level 3 require knowledge of facts, principles, processes and general concepts in a field of work. They may carry out a wider range of duties than the person working at level 2, and will have more responsibility, with guidance and supervision available when needed. They will contribute to service development, and are responsible for self development. **Indicative or Reference title: Senior Healthcare Assistants/Technicians**

2 **Career Framework Level 2**
People at level 2 require basic factual knowledge of a field of work. They may carry out clinical, technical, scientific or administrative duties according to established protocols or procedures, or systems of work.
Indicative or Reference title: Support Worker

1 **Career Framework Level 1**
People at level 1 are at entry level, and require basic general knowledge. They undertake a limited number of straightforward tasks under direct supervision. They could be any new starter to work in the Health sector, and progress rapidly to Level 2. **Indicative or Reference title: Cadet**

Appendix 3: NHS Ethical Approval letter from Scientific Officer of the South East Scotland Research Ethics Service

From: Bailey, Alex <Alex.Bailey@luht.scot.nhs.uk>
Sent: 26 September 2012 10:41
To: Steenkamp, Lizanne
Subject: RE: A question about NHS ethics

Dear Lizzane,

It has no effects on the ethics.

Alex

Alex Bailey
Scientific Officer
South East Scotland Research Ethics Service
Waverley Gate
Edinburgh
EH1 3EG
Phone: 0131 465 5679 (35679)

From: Steenkamp, Lizanne [mailto:LSteenkamp@qmu.ac.uk]
Sent: 26 September 2012 10:37
To: Bailey, Alex
Subject: RE: A question about NHS ethics

Hi Alex,

I will be using interviews but not in their place of work. Some of them may be offered through online media such as Skype. Does this change the ethical requirements for Scotland? I will have a look on the English and Wales R&D sites to check.

Thank you for your help!

Kind regards
Lizanne

From: Bailey, Alex [mailto:Alex.Bailey@luht.scot.nhs.uk]
Sent: 26 September 2012 10:11
To: Steenkamp, Lizanne
Subject: RE: A question about NHS ethics

Dear Lizanne,

Yes, it applies UK-wide, in terms of ethics.

I'm not sure how different R&D departments handle it though. I imagine if it is a postal/internet questionnaire then there shouldn't be any problems. If you are actually visiting different Boards/Trusts then I would get in touch with them to see what their requirements are.

Regards,

1

Alex

From: Steenkamp, Lizanne [mailto:LSteenkamp@qmu.ac.uk]
Sent: 26 September 2012 08:49
To: Bailey, Alex
Subject: RE: A question about NHS ethics

Thank you Alex,

Do you think this would apply to England and Wales as well? I am more than happy to contact the representatives in those areas myself if you could point me in the right direction? Unfortunately I am not limited to Scotland as that would have been much easier!

Kind regards
Lizanne

From: Bailey, Alex [mailto:Alex.Bailey@luht.scot.nhs.uk]
Sent: 24 September 2012 11:16
To: Steenkamp, Lizanne
Subject: RE: A question about NHS ethics

Dear Lizanne,

If the study involves NHS staff only then there is no requirement (policy-wise or legally) for NHS ethical review unless the study involves any of the following:

people who lack the capacity to give informed consent to take part in the research
processing of confidential patient information without consent where this would otherwise breach confidentiality
material consisting of or including human cells, which has been taken from the living or the deceased. Legally required, if it involves analysis of DNA in material from the living and consent for research not in place (UK-wide)
patients who are cared for in private and voluntary sector nursing homes (in England, Wales and Northern Ireland) and/or residents of residential care homes (in Northern Ireland only)
exposure to ionising radiation
medical devices that are not CE-marked or CE-marked devices that have been modified or are being used for a new purpose
investigational medicinal products
practising midwives conducting a clinical trial
protected information from the Human Fertilisation and Embryology Authority register

Regards,

Alex

Alex Bailey
Scientific Officer
South East Scotland Research Ethics Service
Waverley Gate
Edinburgh

2

EH1 3EG
Phone: 0131 465 5679 (35679)

Dear Alex,

I am a lecturer at QMU and I have a question about NHS ethics. Linda Graham from RKEU at QMU suggested I contact you directly.

I am planning a qualitative study involving audiologists across the UK focusing on the construction of their professional identities. So I am not considering any service or patient related data but I suppose service and/or patient related information may be mentioned by the participant to discuss how they see their role. I am planning to recruit through the professional body and not the NHS. I guess the difficulty is that the majority of the participants will be working in the NHS. Should I consider applying for NHS ethics in this case? And if so do you have any advice about the process in Scotland as well as other home countries?

Thank you

Lizanne

find us on
Facebook

Lizanne Steenkamp
Lecturer in Audiology, Programme Leader for MSc/PgDip in Audiology (pre reg) and Admissions Tutor
Speech and Hearing Sciences

Queen Margaret University
Musselburgh
East Lothian
EH21 6UU
Tel: 0131 474 0000 Fax: 0131 474 0001
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Appendix 4: 2013 QMU Ethical Approval

Queen Margaret University

EDINBURGH

APPLICATION FOR ETHICAL APPROVAL
FOR A RESEARCH PROJECT

This is an application form for ethical approval to undertake a piece of research. Ethical approval must be gained for any piece of research to be undertaken by any student or member of staff of QMU. Approval must also be gained by any external researcher who wishes to use Queen Margaret students or staff as participants in their research.

Please note, before any requests for volunteers can be distributed, through the moderator service, or externally, this form MUST be submitted (completed, with signatures) to the Secretary to the Research Ethics Panel.

You should read QMU's chapter on "Research Ethics: Regulations, Procedures, and Guidelines" before completing the form. This is available at:

http://www.qmu.ac.uk/quality/rs/default.htm

Hard copies are available from the Secretary to the Research Ethics Panel.

The person who completes this form (the applicant) will normally be the Principal Investigator (in the case of staff research) or the student (in the case of student research). In other cases of collaborative research, e.g. an undergraduate group project, one member should be given responsibility for applying for ethical approval. For class exercises involving research, the module coordinator should complete the application and secure approval.

The completed form should be typed rather than handwritten. Electronic signatures should be used and the form should be submitted electronically wherever possible.

Applicant details

1. Researcher's name: Lizanne Steenkamp
2. Researcher's contact email address: lsteenkamp@qmu.ac.uk
3. Category of researcher (please tick and enter title of programme of study as appropriate):

QMU undergraduate student	
Title of programme:	
QMU postgraduate student – taught degree	
Title of programme:	
QMU postgraduate student – research degree	
QMU staff member – research degree	x
QMU staff member – other research	
Other (please specify)	

4. School: Health Sciences
5. Division: Speech and Hearing Sciences
6. Name of Supervisor or Director of Studies (if applicable): Dr Karen Goodall
7. Names and affiliations of all other researcher who will be working on the project:
Second (Dr Iddo Oberski) and Third supervisor (Mrs Christine DePlacido)

Research details

8. Title of study: The Impact of Change in Audiology: The Professional Identity of Audiology Professionals in the United Kingdom.
9. Expected start date: January 2011
10. Expected end date: January 2017
11. Details of any financial support for the project from outside QMU: none
12. Please detail the aims and objectives of this study (max. 400 words)

Audiology in the UK faced several challenges and opportunities in service development and education which resulted in a fractured profession with multiple identities. The difficulty for the profession lies in the fact that some of these changes do not appear to further improve and develop what is existing but rather presents a different version of what is already in existence. It is therefore necessary to determine the impact of this changing context on the construction of the individual clinician's identity and how they make sense of it. At present there is paucity of literature on professional identity development in audiology especially in the qualified population. A study by Ng *et al* (2012) in Canada reported that the professional identity in audiology is weak and in need of further research in order to prepare students better for a changing environment.   Schön (1983, as cited in Dall'Alba, 2009) stresses the importance of completing research within the challenges and complexities of practice so as to add value to the evidence base. It is hoped that the intended research could support preparation and training of future clinicians by informing curriculum design.

The main aim of this study would be to understand how audiologists' construct their professional identity considering the professional context. The following sub-aims will support the main aim:

1. To describe the lived experience and perspective of audiologists on their professional identity and its development.
2. To explore how this professional identity is constructed.
3. To consider the impact of these constructions in relation to the professional context.
4. To consider the impact of these constructions on the training and education of future audiologists.
5. To generate a theory of the professional identity of the audiologist

Methodology

13. Research procedures to be used: *please tick all that apply*.

	Tick if applicable
Questionnaires (*please attach copies of all questionnaires to be used*)	
Interviews (*please attach summary of topics to be explored*)	x
Focus groups (*please attach summary of topics to be explored / copies of materials to be used*)	
Experimental / Laboratory techniques (*please include full details under question 14*)	
Use of email / internet as a means of data collection (*please include full details under question 14*)	x
Use of questionnaires / other materials that are subject to copyright (*please include full details under question 14 and confirm that the materials have been / will be purchased for your use*)	
Use of biomedical procedures to obtain blood or tissue samples (*please include full details under question 14 and include subject area risk assessment forms, where appropriate)*	
Other technique / procedure (*please include full details under question 14*)	

14. Briefly outline the nature of the research and the methods and procedures to be used (max. 400 words).

This study will use a constructivist Grounded theory approach by performing open-ended, intensive interviews for data collection to support in-depth exploration of the topic or experience as outlined in point 12. Non-probability sampling will be used predominantly for participant selection as it allows the selection of specific participants. In this case, the topic of the study determines the boundaries of the sample; therefore the sample will consist of audiologists who have been working in the United Kingdom. Each participant in the study will be offered an interview at a neutral venue (preferably not a work environment) of their choosing, to encourage minimal disruption. It is possible that the interviews can be offered via online platforms such as adobe connect to support wider participation but this will depend on participant's online access. The interview will be scheduled to last no more than an hour and each session will be recorded using a digital voice recorder (or adobe connect software) for accuracy.

Every recorded interview will be transcribed by the researcher to allow analysis of the information gathered. A paper copy of each transcript will be provided to the participant for his / her confirmation as part of the informed consent process. The transcribed interview, as well as the voice recording of each interview, will be stored in a safe place to ensure anonymity and confidentiality.

This study does not need NHS ethical clearance as it will not be conducted in the NHS. Please see attached email from Alex Bailey.

15. Does your research include the use of people as participants? *Please delete as appropriate.* **Yes**

16. Does your research include the experimental use of live animals? *Please delete as appropriate.* **No**

17. Does your research involve experimenting on plant or animal matter, or inorganic matter? *Please delete as appropriate.* **No**

18. Does your research include the analysis of documents, or of material in non-print media, other than those which are freely available for public access? *Please delete as appropriate.* **No**

19. ***If you answered 'Yes' to question 18****, give a description of the material you intend to use. Describe its ownership, your rights of access to it, the permissions required to access it and any ways in which personal identities might be revealed or personal information might be disclosed. Describe any measures you will take to safeguard the anonymity of sources, where this is relevant:*

> *This text box will expand as required.*

20. Will any restriction be placed on the publication of results? *Please delete as appropriate.* **No**

21. **If you answered 'Yes' to question 20**, give details and provide a reasoned justification for the restrictions. (See Research Ethics Guidelines Section 2, paragraph 7)

> *This text box will expand as required.*

22. Will anyone except the named researchers have access to the data collected? *Please delete as appropriate.* **No**

23. Please give details of how and where data will be stored, and how long it will be retained for before being destroyed. (See Research Ethics Guidelines Section 1, paragraph 2.4.1)

> The names of participants will be known only to the researcher and a code will be allocated to each participant. The original list detailing the names and codes of participants will be kept on an external hard drive that will be locked in a safe place to which only the researcher will have access. Transcripts of interviews will be identified by the code allocated to each participant to ensure anonymity and confidentiality. These transcripts will also be kept on the external hard drive and coded copies will be made available for qualitative analysis of the data. The anonymised transcripts will be analysed and stored electronically using Qualitative Analysis software (Nvivo9). The transcribed interviews will be kept for 5 years after the completion of the study when it will be destroyed.

24. Please highlight what you see as the most important ethical issues this study raises (eg. adverse physical or psychological reactions; addressing a sensitive topic area; risk of loss of confidentiality; other ethical issue. If you do not think this study raises any ethical issues, please explain why).

> This study will explore professional values and views as a group as well as the individual's career progress and interpretation of their identity in the current context. The researcher does not foresee this being a sensitive topic area. Confidentiality will be maintained as discussed in point 23.

25. If you have identified any ethical issues associated with this study, please explain how the potential benefits of the research outweigh any potential harms (eg. by benefiting participants; by improving research skills; other potential benefit).

> *This text box will expand as required.*

Protection for the Researcher

26. Will the researcher be at risk of sustaining either physical or psychological harm as a result of the research? *Please delete as appropriate.* **No**

27. If you answered 'Yes' to question 26, please give details of potential risks and the

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This text box will expand as required.

---

precautions which will be taken to protect the researcher.

Research Involving Human Participants

You should only complete this section if you have indicated above that your research

will involve human participants.

28. Please indicate the total number of participants you intend to recruit for this study from each participant group:

Participant Group	Please state total number
QMU students	
QMU staff	
Members of the public from outside QMU	
NHS patients	
NHS employees	Between 15 and 20
Children (under 18 years of age)	
People in custody	
People with communication or learning difficulties	
People with mental health issues	
People engaged in illegal activities (eg. illegal drug use)	
Other (please specify):	HEI staff in audiology courses (part of number indicated for NHS staff above)

* Please declare in section 32 where the participant group may necessitate the need for standard or enhanced disclosure check

29. Please state any inclusion or exclusion criteria to be used. (See Research Ethics Guidelines Section 1, paragraph 2.4)

Inclusion criteria
Inclusion criteria
Audiology professionals that qualified through the BAAT I and II (vocational based diploma)
Audiologists that qualified through the BSc (Hons) in Audiology in England, Wales and Scotland
Audiologists that qualified through the MSc in Audiology (pre registration) courses in England and Scotland
Audiologists working in clinical environments
Audiologists that are registered with either the RCCP or the HPC depending on qualification
Audiologists that are Hearing therapists as well. This includes those with qualifications in audiology that specialised in Hearing therapy.
Audiologists involved with the training and education of audiology professionals and working in HEI's.

Exclusion criteria

Exclusion criteria
Exclusion criteria
Audiologists that qualified through the foundation degrees offered in Scotland and England
Audiologists working as Hearing Aid Dispensers
Hearing therapists without qualifications in audiology that specialised in Hearing therapy.

30. Please give details of how participants will be recruited:

Recruitment of participants will depend on the type of sampling (convenience, purposive or theoretical). Participants may be selected based on work experience, training as well as experience of and involvement in the current changing context of the profession. It is a small profession and the researcher is able to contact prospective participants through participation in various professional body related committees as well contacts with HEIs offering audiology degree programmes. Participants may also be recruited through professional body membership if necessary. Modernisation documents such as the PHIS report and *Audiology Services: Fifth Report of Session 2006-2007* by the House of Commons Health Committee will be used to identify participants as well. The majority of participants will be contacted by email through existing professional contacts of the researcher. If necessary the researcher will send an email through the professional body (British Academy of Audiology (BAA)) to recruit participants.

31. Please describe how informed consent will be obtained from participants. (See Research Ethics Guidelines Section 1, paragraphs 2.1.2 – 2.1.5)

The informed consent process for this study will be twofold. Informed consent to participate in the study will be obtained as well as consent to use the data gathered.

Step 1:
Each participant will be provided with an information sheet containing information about the purpose of the project as well as the subject under investigation. They will be asked to sign the consent form if they are willing to volunteer. Participants will be offered an opportunity to contact the researcher or an independent advisor, to seek further information about the study. Participants will also be required to consent to the recording of their interview with a digital voice recorder as well as consent to the use of the data collected.

Step 2:
Informed consent can be difficult to obtain at the start of a qualitative research study as it is difficult to know the impact of gathering the data beforehand. Due to the nature of this study, participants will be asked to consent to the interview and will be provided with a copy of the transcript of their interview to read through and confirm if it is an actual representation. Participants will sign a statement to return with the transcript to confirm that they give consent for the data to be used. Participants will also be informed that they can withdraw from the study at any stage without needing to give a reason.

32. Ethical Principles incorporated into the study (*please tick as applicable*):

	Tick as applicable
Will participants be offered a written explanation of the research?	X
Will participants be offered an oral explanation of the research?	X
Will participants sign a consent form?	X
Will oral consent be obtained from participants?	X
Will participants be offered the opportunity to decline to take part?	X
Will participants be informed that participation is voluntary?	X
Will participants be offered the opportunity to withdraw at any stage without giving a reason?	X
Will independent expert advice be available if required?	x
Will participants be informed that there may be no benefit to them in taking part?	x
Will participants be guaranteed confidentiality?	x
Will participants be guaranteed anonymity?	x
Will the participant group necessitate a standard or enhanced disclosure check?	N/A
Will the provisions of the Data Protection Act be met?	x
Has safe data storage been secured?	x

Will the researcher(s) be free to publish the findings of the research?	x
If the research involves deception, will an explanation be offered following participation?	N/A
If the research involves questionnaires, will the participants be informed that they may omit items they do not wish to answer?	N/A
If the research involves interviews, will the participants be informed that they do not have to answer questions, and do not have to give an explanation for this?	x
Will participants be offered any payment or reward, beyond reimbursement of out-of-pocket expenses?	N/A

33. Risk Assessment

Queen Margaret University
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Reference:	

School / Division:	SHS	Location:		Date	23/03/2013
Assessed by:	K Goodall	Job Title:	Senior Lecturer	Signature	
Activity / Task:	Data Collection	Total Number exposed to risk	0	Review Date	

Ref no.	Hazards	People at risk					Likelihood				Severity				Total risk	Existing control measures	Adequate controls?
		Employees and students	Members of public/visitors	Contractors	Young people	Mothers: new or expectant	Improbable	Remote	Possible	Probable	No injury	Minor	Major	Fatal			
1.	**Loss of confidentiality**	15-20					x				x				1	Data will be anonymised before secure storage in accordance with professional guidelines, as outlined above.	Yes
2.																	
	Risk value (RV)						1	2	3	4	1	2	3	4			

Total risk = Likelihood (RV) x Severity (RV)   Total risk of 1 – 4 = 'L', low risk   Total risk of 6 – 9 = 'M', medium risk   Total risk of 12 – 16 = 'H', high risk

![Queen Margaret University Edinburgh logo]

Reference:	

Remedial action required

Ref no.	Action required	Target date	Action by:	Date completed
1.				
2.				
3.				
4.				
5.				

Declarations

34. Having completed all the relevant items of this form and, if appropriate, having attached the Information Sheet and Consent Form plus any other relevant documentation as indicated below, complete the statement below.

- I have read Queen Margaret University's document on "Research Ethics: Regulations, Procedures, and Guidelines".
- *In my view* this research is:

See Research Ethics Guidelines Section 6	*Please tick*
Non-invasive	x
Minor invasive using an established procedure at QMU	
Minor invasive using a NEW procedure at QMU	
Major invasive	

- I request Ethical Approval for the research described in this application.

Name *(if you have an electronic signature please include it here)*

_____ Date ____23 March 2013_____

Documents enclosed with application:

Document	Enclosed (please tick)	Not applicable (please tick)
Copy of consent form(s)	X	
Copy of information sheet(s)	X	
Sample questionnaire		X
Example interview questions		X
Copy of proposed recruitment advert(s)		X
Letters of support from any external organisations involved in the research		X
Evidence of disclosure check		X
Division risk assessment documentation		X
Any other documentation (please detail below)		X
Risk Assessment		X
Topic sheet for discussion	X	

35. If you are a student, show the completed form to your supervisor/Director of Studies and ask them to sign the statement below. If you are a member of staff, sign the statement below yourself.

- I am the supervisor/Director of Studies for this research.
- *In my view* this research is:

See Research Ethics Guidelines Section 6	Please tick
Non-invasive	x
Minor invasive using an established procedure at QMU	
Minor invasive using a NEW procedure at QMU	
Major invasive	

- I have read this application and I approve it.

Name *(if you have an electronic signature please include it here)* Dr. K Goodall

_____ *KEfundll* _____ Date 23 March 2013_____

36. For all applicants, send the completed form to your Head of Division or Head of Research Centre or, if you are an external researcher, submit the completed form to the Secretary to the QMU Research Ethics Panel. **You should not proceed with any aspect of your research which involves the use of participants, or the use of data which is not in the public domain, until you have been granted Ethical Approval.**

FOR COMPLETION BY THE HEAD OF DIVISION/HEAD OF RESEARCH CENTRE
Either

I refer this application back to the applicant for the following reason(s):

Name *(if you have an electronic signature please include it here)*

_____   Head of Division / Research Centre

Date _____

Please return the form to the applicant.

Or

Please tick **one** of the alternatives below and delete the others.

   I refer this application to the QMU Research Ethics Panel.

   I find this application acceptable and an application for Ethical Approval should now be submitted to a relevant external committee.
   I grant Ethical Approval for this research.

Name *(if you have an electronic signature please include it here)*

_____   Head of Division / Research Centre

Date _____
Please send one copy of this form to the applicant and one copy to the Secretary to the Research Ethics Panel, Quality Enhancement Unit, Registry.
Date application returned: _____

Appendix 5: 2018 QMU Ethical Approval of Amendment

Queen Margaret University
EDINBURGH

For Office Use Only	
Ref. Number	
Assigned Reviewers	
Outcome	☐ Granted ☐ Amendments ☐ Rejected

Research Ethics Panel: Notification of Amendments and Change Form

This is a form to notify the Research Ethics Committee of amendments to all research that has previously received approval by a Research Ethics Committee.

Please note, before the amendments are implemented for the project, this form MUST be submitted (completed, with signatures) to the Secretary to the Research Ethics Panel (ResearchEthics@qmu.ac.uk).

You should read QMU's chapter on "Research Ethics: Regulations, Procedures, and Guidelines" before completing the form. This is available at:
http://www.qmu.ac.uk/quality/rs/default.htm

The person who completes this form (the applicant) will normally be the Principal Investigator (in the case of staff research) or the student (in the case of student research). In other cases of collaborative research, e.g. an undergraduate group project, one member should be given responsibility for applying for ethical approval. For class exercises involving research, the module coordinator should complete the application and secure approval.

Please provide ONE electronic copy of the original document and ONE electronic copy of the amended document for review. Also, please highlight all proposed amendments on the amended documents submitted for ease of review.

The completed form **should be typed** rather than handwritten. **Electronic signatures** should be used and the form should be **submitted electronically**

Checklist: Documents enclosed with application:

Please note that any application with missing relevant documentation will be returned to the applicant.

Enclosed (please tick)	Not applicable (please tick)	Document name
☐	☐	**Research protocol or proposal**
☐	☐	**Participant Information Sheet(s) (PIS)**
☐	☐	**Participant consent form(s)**
☐	☐	**Copies of recruitment advertisement material**
☐	☐	**Sample questionnaires (please detail below)**
☐	☐	**Interview schedules or topic guides**
☐	☐	**Letter(s) of support from any external organisations involved in the research**
☐	☐	**Evidence of disclosure check**
☐	☐	**Risk assessment documentation**
☐	☐	**Any other documentation (please detail below)**

Section A: Applicant details

33. Researcher's name: Lizanne Steenkamp
- a. Post: Lecturer in Audiology
- b. Qualifications:
- c. Contact email: lsteenkamp@qmu.ac.uk

34. Category of researcher (please tick and enter title of programme of study as appropriate):

☐	QMU undergraduate student Title of programme:
☐	QMU postgraduate student – taught degree Title of programme:
☐	QMU postgraduate student – research degree
☑	QMU staff member – research degree
☐	QMU staff member – other research
☐	Other (please specify) Details:

35. School: Health Sciences
36. Division: Speech and Hearing Sciences
37. Subject area: Audiology
38. Name of Supervisor or Director of Studies (if applicable): Dr Mairghread Ellis
39. Names and affiliations of all other researcher who will be working on the project:

First name	Last name	Position	Affiliation	Role on project

Section R-B

Full title of study: **The Impact of Change in Audiology: The Professional Identity of Audiology professionals in the United Kingdom.**

Date study commenced: January 2011
Current protocol version and date (if applicable): 9 October 2013
Amended protocol version and date: 19 October 2018

Type of amendment
D1. Amendment to information previously provided in the Research Ethics Application form
☑ Yes   ☐ No

If yes, please refer to relevant section of the Research Ethics application form in the "summary of changes" below.

D2. Amendment to the protocol
☑ Yes   ☐ No

If yes, please submit a copy of the current protocol version and a copy of the revised protocol with a new version number and date, <mark>highlighting</mark> the changes in the revised protocol.

D3. Amendment to the information sheet(s) and consent form(s) for participants, or to any supporting documentation for the study
☐ Yes ☑ No

If yes, please submit all revised documentation with

A	There is a significant proposed deviation from my original protocol. Please attach details on a separate sheet.

Signature of Researcher:

Date: 19 October 2018

Please return the completed form to the Secretary to the Research Ethic Panel (researchethics@qmu.ac.uk). In the cases of A or B, approval of the Research Ethics Panel may be necessary. Normally this can be granted by Convener's Action. Signature of Convener (Research Ethics Committee):   Date:

Name of Researcher: Lizanne Steenkamp (09006413)
Division: Speech and Hearing Sciences
Title of Project: **The Impact of Change in Audiology: The Professional Identity of Audiology professionals in the United Kingdom.**

Please find a summary of the changes below in relation to the relevant ethics question on the QMU ethics form

Ethics question	Original statement	Changes in 2013	Changes in 2018
14. Briefly outline the nature of the research and the methods and procedures to be used (max. 400 words).	This study will use a constructivist Grounded theory approach by performing open-ended, intensive interviews for data collection to support in-depth exploration of the topic or experience as outlined in point 12. Non-probability sampling will be used predominantly for participant selection as it allows the selection of specific participants. In this case, the topic of the study determines the boundaries of the sample; therefore the sample will consist of audiologists who have been working in the United Kingdom. Each participant in the study will be offered an interview at a neutral venue (preferably not a work environment) of their choosing to encourage minimal disruption. It is possible that the interviews can be offered via online platforms such as adobe connect to support wider participation but this will depend on participant's online access. The interview will be scheduled to last no more than an hour and each session will be recorded using a digital	Interviews will be offered mostly through the use of Adobe Connect. This will allow the researcher to contact more participants and offer more flexible appointments. It may also support recruiting of international participant if necessary. Adobe Connect is available on tablets and smart phones as well as computers. It requires access to broadband and in the case of a computer, a webcam and headphones. It is similar to Skype but it supports the ability to record the conversation. It is expected that the majority of participants will have access to a tablet, smartphone or computer to participate in the interview. In the case of a tablet and smartphone it will require the installation of an application which can be downloaded for free. It is	Online interview data collection will be supplemented by an online questionnaire circulated through Online Survey (previously Bristol online Survey). The survey will likely employ mixed methods. It will be circulated to audiology professionals through professional bodies' advertisement so no changes to ethical approval required for accessing participants. Questions will utilise the original interview topic sheet as well as reflections from the analysis of the series of interviews I have already completed.

	voice recorder **(or adobe connect software) for accuracy.**	suitable for Apple and android products.	
	Every recorded interview will be transcribed by the researcher to allow analysis of the information gathered. A paper copy of each transcript will be provided to the participant for his / her confirmation as part of the informed consent process. The transcribed interview, as well as the voice recording of each interview, will be stored in a safe place to ensure anonymity and confidentiality. This study does not need NHS ethical clearance as it will not be conducted in the NHS. Please see attached email from Alex Bailey.		

Thanks Jim ☺

L

From: Scobbie, Jim
Sent: 29 May 2013 15:14
To: Steenkamp, Lizanne
Subject: RE: Ethical approval L Steenkamp PhD 09006413

I just signed the hard copy since it was already printed, rather than going electronic. V. useful exchange with alex bailey. I see no problems. You can send it to the research ethics panel / registry, and they will log it, but perhaps make sure your information sheet has a really independent person on it, or that you say "my supervisor" – just go for consistency.

Jim

From: Steenkamp, Lizanne
Sent: 27 May 2013 16:00
To: Scobbie, Jim
Subject: Ethical approval L Steenkamp PhD 09006413

Dear Jim,

Please find attached my application for ethical approval for my PhD study. I have also put a hard copy on your desk.

Kind regards
Lizanne

<< File: Ethical approval form L Steenkamp 09006413.pdf >> << File: Information sheet and consent forms L Steenkamp 09006413.pdf >> << File: Letter re NHS ethics L Steenkamp 09006413.pdf >> << File: Topic sheet for interview L Steenkamp 09006413.pdf >>

Lizanne Steenkamp
Lecturer in Audiology, Programme Leader for MSc/PgDip in Audiology (pre reg) and Admissions Tutor
Chair of the British Academy of Audiology Accreditation of Academic Education Committee
Speech and Hearing Sciences
Queen Margaret University
Musselburgh
East Lothian
EH21 6UU
Tel: 0131 474 0000 Fax: 0131 474 0001
Queen Margaret University, Edinburgh is a registered charity: Scottish Charity Number SC002750.

Appendix 6: Interview topic guide

Objectives:	Field notes:
Introduction: • Introduce self and study • Discuss confidentiality • Confirm timing	
Topics • Career history • When they joined the profession? • Which route to registration they followed? • Where have they worked? • Describe some of the different roles fulfilled in their career • Level of Experience in the profession • Did they have any Professional body involvement? • Their views on their personal professional identity – how they see the role of the audiologist? • Reflecting on their own career from starting point to current context • Discussing challenges and opportunities in their career • Professional scope of practice in the UK and how it compares elsewhere (to their knowledge and understanding) • Are they aware of any differences to other countries? • How they see the role of the Audiologist in clinical practice • How they experience(d) the changes in the clinical context of the profession as well as education over their careers • Their views on the impact of these changes on the individual and the group within the profession	
Professional reflection and winding down: • The future of the profession as they see it considering the current climate	

Appendix 7: Participant Information Sheet

Queen Margaret University

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The Impact of Change in Audiology: The Professional Identity of Audiology Professionals in the United Kingdom.

My name is Lizanne Steenkamp and I am a postgraduate student in the School of Health Sciences at Queen Margaret University in Edinburgh. I am undertaking this research project as part of my PhD dissertation.

This project aims to investigate and understand how audiology professionals in the UK construct their professional identity, given the changing professional context.

This study will focus on audiology professionals involved in education, training and clinical practice. It will include the following topics:

- Entry to the profession of audiology and career development
- The professional context, considering changes in the profession over the years
- The impact of these changes
- Views on the Audiologist's professional identity
- Suggestions for future training and development

I am looking to conduct in-depth interviews with audiology professionals who may be employed in a Higher Education Institution and/or in clinical practice.

If you agree to participate in the study, you will be interviewed at a time of your choosing to ensure minimal inconvenience to you. Interviews will be offered and recorded through an online platform, Adobe connect. Connect supports voice and text communication as well as video and it can be accessed from home or at work. It is available on tablets and smartphones and can also be used on a computer with broadband Internet access, speakers, microphone and a webcam. Connect supports audio-visual recordings of a conversation between participants, thereby offering a flexible approach to interviewing, which is not limited to a specific venue or time.

The whole procedure should take no longer than an hour and a half. You will be free to withdraw from the study at any stage and you would not have to give a reason. If

you feel you do not want to discuss a specific topic, you can indicate this to the researcher and would not have to give a reason.

All data will be anonymised as far as possible and stored securely to ensure confidentiality. The audio-visual recordings will be transcribed, and transcripts will be made available to you for confirmation. The transcripts will be assigned a participant number, thus replacing your name and it will not be possible for you to be identified in any reporting of the data gathered. The audio-visual recordings are stored as unique web links on the Adobe connect database at QMU. At the end of the interview, these will be converted to a suitable format for transcription and then permanently removed from the database. Access to the online meeting room is limited to the researcher and participant during the interview.

The results of this study may be published in a journal or presented at a conference.

If you would like to contact an independent person, who knows about this project but is not involved in it, you are welcome to contact Dr Janet Beck. Her contact details are given below.

If you have read and understood this information sheet, received answers to any questions and would like to be a participant in the study, please now see the consent form.

Contact details of the researcher
Name of researcher: Lizanne Steenkamp
Address: Postgraduate Student,
                              Speech and Hearing Sciences,
                              School of Health and Social Sciences
                              Queen Margaret University
                              Queen Margaret University Drive
                              Musselburgh
                              EH21 6UU
Email / Telephone: lsteenkamp@qmu.ac.uk / 0131 474 0000

Contact details of the independent adviser
Name of adviser: Dr. J. Beck
                              Head of Speech and Hearing Sciences
Address: Queen Margaret University
                              Queen Margaret University Drive
                              Musselburgh
                              EH21 6UU
Email / Telephone: jbeck@qmu.ac.uk 0131 474 0000

Appendix 8: Consent Form

Queen Margaret University

EDINBURGH

Consent form

The Impact of Change in Audiology: The Professional Identity of Audiology Professionals in the United Kingdom.

My project aims to investigate and understand how audiology professionals construct their professional identity in the UK considering the changing professional context

- I have read and understood the information sheet and this consent form.
- I have had an opportunity to ask questions about my participation.
- I understand that I am under no obligation to take part in this study.
- I understand that I have the right to withdraw from this study at any stage without giving any reason.
- I agree to participate in this study.
- I agree to have the interviews recorded through Adobe connect.

Name of participant: _____

Signature of participant: _____

Signature of researcher: _____

Date: _____

Contact details of the researcher
Name of researcher: Lizanne Steenkamp
Address: Postgraduate Student,
                               Speech and Hearing Sciences,
                               School of Health Sciences,
                               Queen Margaret University,
                               Queen Margaret University Drive
                               Musselburgh
                               EH21 6UU

Email / Telephone: lsteenkamp@qmu.ac.uk / 0131 474 0000

Appendix 9: Consent to confirm accuracy of transcribed interview

Queen Margaret University

EDINBURGH

The impact of Change in Audiology: The Professional Identity of Audiology professionals in the United Kingdom.

My project aims to investigate and understand how audiologists' construct their professional identity in the UK considering the changing professional context

- I have read and confirmed that the transcribed document is an accurate representation of the interview conducted between myself and the researcher, Lizanne Steenkamp. I have had an opportunity to withdraw any information I am not willing to include.
- I understand that I am under no obligation to take part in this study.
- I understand that I have the right to withdraw from this study at any stage without giving any reason.
- I understand and give consent for the information in the transcript to be used in the study and also consent to the publication of the anonymised results.

Name of participant: _____

Signature of participant: _____

Signature of researcher: _____

Date: _____

Contact details of the researcher

Name of researcher: Lizanne Steenkamp

Address: Postgraduate Student
                          Speech and Hearing Sciences,
                          School of Health Sciences,
                          Queen Margaret University,
                          Queen Margaret University Drive
                          Musselburgh
                          EH21 6UU

Email / Telephone: lsteenkamp@qmu.ac.uk / 0131 474 0000

Appendix 10: Participant Demographic Information Sheet

Queen Margaret University

EDINBURGH

The Impact of Change in Audiology: The Professional Identity of Audiology Professionals in the United Kingdom.
Participant Information Sheet

Participant name: _____

Participant number: _____ (assigned by researcher)

(Boxes will expand where necessary)

1. Education History

Please enter details of all relevant places of learning, giving the highest qualifications achieved at each institution (where appropriate).

Further/Higher Education – Name of Institution(s)	Course	Date of completion

2. Professional registration (if appropriate)

Registration Body	Registered as: (e.g. Audiologist, Clinical Scientist, etc.)

3. Career to Date

Please enter details of your current or most recent employer first, followed by previous employment.

Employer	Job Title	Main area of focus (i.e. Adults, Paediatrics, etc.)	Start Date	End Date

4. Professional Body Membership

Professional body	Membership Level	Participation (committees, editor etc.)

Appendix 11: Survey Validation Rubric for Expert Panel

Survey/Interview Validation Rubric for Expert Panel - VREP©

By Marilyn K. Simon with input from Jacquelyn White

Please complete the tables below by scoring each criterion. The bullet points in the operational definition are there as guide for evaluation to determine a score.

Criteria	Operational Definitions	Score 1=Not Acceptable (major modifications needed) 2=Below Expectations (some modifications needed) 3=Meets Expectations (no modifications needed but could be improved with minor changes) 4=Exceeds Expectations (no modifications needed)				Questions NOT meeting standard (List page <u>and</u> question number) and need to be revised. *Please use the comments and suggestions section to recommend revisions.*
		1	2	3	4	
Clarity	• The questions are direct and specific. • Only one question is asked at a time. • The participants can understand what is being asked. • There are no *double-barreled* questions (two questions in one).					
Wordiness	• Questions are concise. • There are no unnecessary words					
Negative Wording	• Questions are asked using the affirmative (e.g., Instead of asking, "Which methods are not used?", the researcher asks, "Which methods *are* used?")					
Overlapping Responses	• No response covers more than one choice. • All possibilities are considered. • There are no ambiguous questions.					

Balance	• The questions are unbiased and do not lead the participants to a response. The questions are asked using a neutral tone.					
Use of Jargon	• The terms used are understandable by the target population. • There are no clichés or hyperbole in the wording of the questions.					
Appropriateness of Responses Listed	• The choices listed allow participants to respond appropriately. • The responses apply to all situations or offer a way for those to respond with unique situations.					
Use of Technical Language	• The use of technical language is minimal and appropriate. • All acronyms are defined.					
Application to Praxis	• The questions asked relate to the daily practices or expertise of the potential participants.					
Relationship to Problem	• The questions are sufficient to resolve the problem in the study • The questions are sufficient to answer the research questions. • The questions are sufficient to obtain the purpose of the study.					

Measure of Construct: A: (The experience of becoming an audiology professional)	• The survey adequately measures this construct.
	   • How and why they chose audiology as a career? (Q7 – Q11)
	   • Which route(s) they followed in becoming an audiology professional? (Q12 – Q13)?
	   • Which audiology professional they identify as? (Q26 – Q27)					

Measure of Construct: B: (The experience of being an audiology professional)	• The survey adequately measures this construct.
	   • Which work context they are employed in? (Q14 – Q15)
	   • What is their level of employment, registration status and professional body membership? (Q16 – Q25)
	   • What is the perceived difference in scope of practice between the different audiology professionals? (Q28)					

Appendix 12: First draft: overview of changes and comments

Draft 1	Original question/statement	Revised question/statement	Comment
1	**Do you currently work as a qualified audiology professional in the United Kingdom?** *A qualified audiology professional is defined as someone who completed a recognised United Kingdom or International course/training pathway in audiology to work in the audiology profession. This can include but is not limited to audiologists, hear care assistants, hearing aid dispensers and clinical scientists. Audiology professionals working in Higher Education are also included.*	**Are you a qualified audiology professional in the United Kingdom?** *A qualified audiology professional is defined as someone who completed a recognised United Kingdom or International course/training pathway in audiology to work in the audiology profession. This can include but is not limited to audiologists, hear care assistants, hearing aid dispensers and clinical scientists. Audiology professionals working in Higher Education are also included.*	Proposed clarification to allow for retired or semi-retired professionals as well as those that may still be registered but working in management etc.
2	What is your **date** of birth? (DD/MM/YYYY)	**What is your year of birth? (YYYY)**	Reviewer 2 made the point about feeling uncomfortable to fill in date. Year should be enough for the data collected.
3 – 11	**No changes made**		
12	Which audiology training pathway(s) did you complete? Please select all that apply.	Which United Kingdom audiology training pathway(s) did you complete? Please select all that apply. Remove *not applicable* from the list of options. Also remove the requirement.	I wish to separate international from UK based courses. Q 13 will now apply to any courses not listed and international courses. There are too many options in the UK alone to allow routing.
13	**No changes made**		
	Audiology professionals often work in more than one context. The following questions apply to all contexts of current employment.	Audiology professionals often work in more than one context. Which **context(s) describes your employment since**	Delete *current* and rephrase to allow for retired or semi-retired professionals as well

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14	Which **context describes your current employment?** Select all that apply.	**completing your qualification?** Select all that apply.	as those that may still be registered but working in management etc.
15	**No changes made**		
16 – 19	**Questions 16 – 19 deleted**		Discussion with Reviewer 3 about how to make this relevant to retired or semi-retired professionals as well as those that may still be registered but working in management etc. I then reviewed the purpose of the survey as it relates to the question and decided to remove the questions related to work. The allocations are arbitrary and not consistent e.g., Criteria for Agenda for Change bandings can vary across trusts.
20	Select all the areas below that are relevant to your **current work context. If you are working in education or training select the areas that apply to you.**	Select all the areas below that are relevant to your **professional expertise**.	Clarify the question to remove references to current practice
21	Please add below if there are any areas not listed above that is part of your **current practice**	Please add below if there are any areas not listed above that is part of your **professional expertise**	Clarify the question to remove references to current practice
22 – 26	**No changes made**		
27	If you **ticked** more than one please rank them below in order of preference	If you **selected** more than one please rank them below in order of preference, from **most to least preferred.**	Clarify to indicate the order of preference
28	Please tick procedures below that apply to each of the audiology professionals (for ease the division is based on the title of registration). Some procedures may apply to all.	**Below are a list of audiological procedures and 3 audiological professionals, based on the title of registration. Consider each procedure and select the relevant professional in whose scope of practice it falls.** Some procedures may apply to all.	Clarify instructions to hopefully restrict choices to appropriate profession(s) without consideration of Agenda for Change bandings.

Appendix 13: Second draft: overview of changes and comments

Draft 2	Original question/statement	Revised question/statement	Comment
Intro	*A **qualified** audiology professional is defined as someone who completed a **recognised** United Kingdom or International course/training pathway in audiology to work in the audiology profession. This can include but is not limited to audiologists, **hear** care assistants, hearing aid dispensers and clinical scientists. Audiology professionals working in Higher Education are also included.*	*An audiology professional is defined as someone who completed a United Kingdom or International course/training pathway in audiology to work in the audiology profession. This can include but is not limited to audiologists, hear(ing) care assistants, hearing aid dispensers, **hearing therapists** and clinical scientists. Audiology professionals working in Higher Education are also included.*	See comments for Question 1
1	Are you a **qualified** audiology professional in the United Kingdom? *A **qualified** audiology professional is defined as someone who completed a **recognised** United Kingdom or International course/training pathway in audiology to work in the audiology profession. This can include but is not limited to audiologists, **hear** care assistants, hearing aid dispensers and clinical scientists. Audiology professionals working in Higher Education are also included.*	**Are you an audiology professional in the United Kingdom?** *An audiology professional is defined as someone who completed a United Kingdom or International course/training pathway in audiology to work in the audiology profession. This can include but is not limited to audiologists, hear(ing) care assistants, hearing aid dispensers, **hearing therapists** and clinical scientists. Audiology professionals working in Higher Education are also included.*	Revisions made based on comments from panel members 8 and 7. Panel member 7 *[Intro] Q1 Do you need to qualify what is mean by 'qualified' and 'recognised'; there may be some audiologists who have never taken any formal training but will have undergone some form of 'interdepartmental training' under their senior staff. Some actively prevent from doing so. I am aware of a couple of people because of family commitments who never undertook any formal training who became senior audiologists themselves.* *'Qualified' I presume you mean working as a practising audiologist and*

			recognised to gain promotion in accordance with [then] NHS Whitley Council Grading Definitions or current grading definitions for the career pathway. This will apply to several audiologists prior to the introduction of the BSc. *The trouble is I cannot think of a better way other than something like 'an autonomous or independent or self-directed.* Panel member 8 *A little pedantic of me but in the definition of an audiology professional, there is a role described as "hear care assistant". To the best of my knowledge, this is only used by one organisation and the more usual role description and the one used by the professional body, BSHAA, is 'hearing care assistant'. Perhaps better to use 'hear(ing) care assistant'.*
2	What is your year of birth? (YYYY)		Panel member 3 felt this was still too personal a question and can identify a participant. Considering changing it to selecting a 10-year band
3	What is your gender?	**No change**	Panel member 3 comment *Also you might want to say why you want identifier type info e.g., age and gender as this requirement might put some people off from completing.*

4	In which United Kingdom home country are you based? (If more than one, please select all that apply)	In which United Kingdom home country **do you work**? (If more than one, please select all that apply)	Panel member 7 *Page 3/19 Q4 'based' is it likely anyone is based in more than one centre or home country border and work across borders i.e., just over the border. Is it more about who employs them or their principal base?* Interesting, as I wondered about the same point. Modify question to be specific about **working in**.
5	How many years have you worked in the profession of audiology?		Panel member 7 *Page 4/19 Q5 and Q6. It is a while since I had to think about it; but will your groups remain statically quantifiable and meaningful – having different bandwidths.*
6	At what age did you commence working in the profession of audiology?		This information is purely added to determine years of experience. Though, is Q6 important?
7, 7a and 8		**No change**	
9	Is audiology your first career?	Is audiology your first career/job?	Panel member 7 Q*9 you ask about 'careers' I had a full-time job before joining audiology but would not refer to it as a career more a job.* Added "*job*" to the question to be inclusive.
10	What did you do before joining the profession of audiology? List any previous degree(s) and/or profession(s) here.		Panel member 3 reported Q*10 – it is difficult to give a concise answer, so it needs considering based on what the researcher wants to know about the person's previous experience*

			Q11 – like Q10 as making a career change would be based on multiple reasons
11		**No change**	
12	Which ***United Kingdom*** audiology training pathway(s) did you complete? Please select all that apply.	Added *Society of Audiology Technicians [SAT] Parts 1 and 2* *Audiology Technicians Group (BSA), (ATG) Parts 1 and 2.*	Panel member 7 *Q12 Prior to BAAT, the Part 1& 2 examinations were organised by the Audiology Technicians Group {BSA]; more often referred to as ATG Parts 1 and 2. Before that they were organised by the Society of Audiology Technicians [SAT] Parts 1 and 2. I was one of them so there will be more.* *Whether you need to qualify BSA / ATG and decide if you want to be totally comprehensive and include SAT.* Will add ATG and SAT to be clear.
12a		**No change**	
13		**No change**	
14	Audiology professionals often work in more than one context. Which context(s) describes your employment **since completing your qualification?** Select all that apply.	Audiology professionals often work in more than one sector. Which sector(s) describes your employment **since completing your qualification?** Select all that apply.	Panel member 7 *Q14 this question takes some understanding /meaning; what is being asked by 'context' in the employment.* *I wonder whether changing context to 'area[s]'* Agree – change to sector Also added voluntary sector to include charities
14a		**No change**	
15		**No change**	

16	Select all the areas below that are relevant to your professional expertise.		Panel member 3 felt *Q16 and 24 provide a list of single tasks and complex activities e.g., otoscopy (task); tinnitus management (complex activities. I am not sure how helpful this is in identifying roles or scopes of practice. Q16 and 24 do not include Hearing therapist* Panel member 3 also felt *Q16 – 'adult aural rehabilitation' is this code for hearing aid fitting or is it meant to refer to HT rehabilitation too?* *Q16 – 'tinnitus assessment' is this audiological or psychosocial or both?* *Q16 – 'management of audiology service' does this include sub-services e.g., HT service?* *This section may need some sort of glossary as too open to interpretation by different people.* It is not about establishing scopes of practices but rather the understanding of each professional completing the survey and linking it to their own qualifications. It is difficult to break down complex tasks into simpler tasks. Hearing therapist to be added as a title/profession/area in Q16 and Q24. **Management of audiology** service is also changed to **Management of service**. Unsure how to address glossary comment or whether it

		is necessary based on review of completed questionnaires.
17 – 20a		**No change**	
21	Is there a specific reason why you are not registered? Select all that apply.	Add the options of **semi-retired/ retired** and **no longer working clinically**	Based on completed questionnaires
21a		**No change**	
22	Which title(s) apply to you? Select all that apply.	Changed spelling – **Hearcare assistant** to **hear(ing) care assistant** **Also added Allied Health professional**	Based on panel member 8's comments Added AHP as some trusts place audiology in AHP and some audiologists, especially internationally qualified audiologists see themselves as an AHP
22a		**No change**	
23		**No change**	
24	Below are a list of audiological procedures and 3 audiological professionals, based on the title of registration. Consider each procedure and select the relevant professional in whose scope of practice it falls. Some procedures may apply to all.	Below are a list of audiological procedures and **4 audiological professionals**, based on the title of registration. Consider each procedure and select the relevant professional in whose scope of practice it falls. Some procedures may apply to **more than one professional**. Remove other from list	Unsure about this one. Panel member 8 felt that *In Q24, it doesn't seem to allow for extended scope of practice from further training and/or experience. I'd suggest that 'in whose scope of practice it can fall' is used.* Panel member 3 felt that *Q16 and 24 provide a list of single tasks and complex activities e.g., otoscopy (task); tinnitus management (complex activities. I am not sure how helpful this is in identifying roles or scopes of practice*

			The question is asked to determine if there is consistency in understanding of areas in audiology and the professional that might be linked to those areas. It is not about establishing scopes of practices but rather the understanding of each professional completing the survey and linking it to their own qualifications.
25.	Adding a further question	If there are any areas not listed above, please add them below and include the professional(s) as appropriate.	One participant ticked Clinical scientist for *other* and this may be an error but adding an open box allows for any missed procedures to be added.

Appendix 14: Final version of the survey

Question	Data type
1. Are you an audiology professional based in the United Kingdom? Yes No	Nominal
2. What is your year of birth? (YYYY) 2.1 before 1950 2.2 1950 - 1959 2.3 1960 - 1969 2.4 1970 - 1979 2.5 1980 - 1989 2.6 1990 - 1999 2.7 after 2000	Grouped frequency distribution
3. What is your gender? 3.1 Male 3.2 Female 3.3 Other 3.4 Prefer not to answer	Nominal
4. In which United Kingdom home country do you work? (If more than one, please select all that apply) 4.1 England 4.2 Northern Ireland 4.3 Scotland 4.4 Wales	Nominal
5. How many years have you worked in the profession of audiology? 5.1 0 - 5 years 5.2 6 - 10 years 5.3 11 - 20 years 5.4 21 - 30 years 5.5 over 30 years	Grouped frequency distribution

6. At what age did you commence working in the profession of audiology?	Grouped frequency distribution

6.1 19 years and under
    6.2 20 - 24 years
    6.3 25 - 30 years
    6.4 31 - 40 years
    6.5 41 - 50 years
    6.6 50 years and over	

7. How did you learn about the profession of audiology? (Please select all that apply)	Nominal

7.1 Family member/ Friend accessing audiological services
    7.2 Personal experience of accessing audiological services
    7.3 School careers adviser
    7.4 Advertising on social media
    7.5 Funding providers
    7.6 Internet search
    7.7 Other	

7.a. If you selected Other, please specify:	Open
8. Why did you consider audiology?	Open
9. Is audiology your first career/job?	Nominal
9.1 Yes 9.2 No	
10. What did you do before joining the profession of audiology? List any previous degree(s) and/or profession(s) here.	Open
11. Why did you consider changing to audiology?	Open
12. Which United Kingdom audiology training pathway(s) did you complete? Please select all that apply	Nominal

12.1 SAT exam Part 1
    12.2 SAT exam Part 2
    12.3 ATG exam Part 1
    12.4 ATG exam Part 2
    12.5 BAAT Part 1
    12.6 BAAT Part 2	

12.7 BTEC NC & HNC in Medial Physics & Physiological Measurements 12.8 Hearing Aid Council exams 12.9 Diploma in Hearing Aid Audiology 12.10 Foundation degree in Hearing Aid Audiology 12.11 Aptitude test in in Hearing Aid Audiology 12.12 Certificate in Hearing Therapy 12.13 BSc (Hons) Audiology 12.14 BSc (Hons) Healthcare science (Audiology) PTP 12.15 Graduate Diploma in Audiology 12.16 Postgraduate Diploma in Audiology with Certificate of Clinical Competence (Individual Record of Clinical Practice) 12.17 Postgraduate Diploma in Audiology without Certificate of Clinical Competence (Individual Record of Clinical Practice) 12.18 MSc in Audiology with Certificate of Clinical Competence (Individual Record of Clinical Practice) 12.19 MSc in Audiology with Certificate of Audiological Competence 12.20 MSc in Audiology with Higher Training Scheme (check certificate award) 12.21 MSc in Audiology without clinical placement 12.22 MSc Clinical Science STP	
12.a. If your pathway is not listed above or it was completed outside of the United Kingdom please provide information below (degree and institution). This also applies to any additional audiology pathways completed outside of the United Kingdom.	Open
13. Why did you choose the specific pathway(s) selected above? Please answer for each pathway completed.	Open
14. Audiology professionals often work in more than one sector. Which sector(s) describes employment since completing your qualification? Select all that apply	Nominal
14.1 National Health Service (NHS) 14.2 Private sector 14.3 Higher Education Institution 14.4 Manufacturer 14.5 Voluntary sector 14.6 Retired	

14.7 Semi-retired 14.8 Other	
14.a. If you selected Other, please specify:	Open
15. What motivated you to seek employment in the sector(s) selected?	Open
16. Select all the areas below that are relevant to your professional expertise.	Nominal

16.1. Otoscopy Adults
    16.2. Otoscopy Paediatrics
    16.3. Adult audiometric assessment
    16.4. Paediatric audiometric assessment
    16.5. Tympanometry in Adults
    16.6. Tympanometry in Children
    16.7. Acoustic Reflex threshold testing
    16.8. Speech audiometry (AB word list and Quick sin)
    16.9. Otoacoustic emissions testing
    16.10. Auditory evoked potentials
    16.11. Vestibular assessment
    16.12. Vestibular rehabilitation
    16.13. Ear impression taking
    16.14. Adult Hearing aid fitting
    16.15. Paediatric Hearing aid fitting
    16.16. Probe microphone measurements
    16.17. Cochlear implant assessment
    16.18. Cochlear implant rehabilitation
    16.19. Bone anchored hearing aid assessment
    16.20. Adult Aural rehabilitation
    16.21. Paediatric aural habilitation
    16.22. Hearing Therapy
    16.23. Tinnitus assessment
    16.24. Hyperacusis assessment
    16.25. Tinnitus management
    16.26. Hyperacusis management
    16.27. Central auditory processing assessment	

16.28. Management of patients with central auditory processing difficulties 16.29. Neonatal hearing screening 16.30. Management of neonatal hearing screening programmes 16.31. Wax removal and cerumen management 16.32. Management of service	
17. Please add below if there are any areas not listed above that is part of your professional expertise.	Open

18. Which professional bodies are you a member of? Select all that apply.
    18.1 British Academy of Audiology (BAA)
    18.2 British Society of Hearing Aid Audiologists (BSHAA)
    18.3 British Society of Audiology (BSA)
    18.4 Association of Independent Hearing Healthcare Professionals (AIHHP)
    18.5 None
    18.6 Other
	Nominal

18.a If you selected Other, please specify:	Open

19 Are you currently registered with a registration body?
    19.1 Yes
    19.2 No
	Nominal

20. Select the registration bodies that you are currently registered with.
    20.1. Registration Council for Clinical Physiologists (RCCP) – Audiologist
    20.2. Registration Council for Clinical Physiologists (RCCP) – Hearing Therapist
    20.3. Health and Care Professions Council (HCPC) – Hearing Aid Dispenser
    20.4. Health and Care Professions Council (HCPC) – Clinical Scientist
    20.5. Academy for Healthcare Science (AHCS)
    20.6. Other
	Nominal

20.a. If you selected Other, please specify:	Open

21. Is there a specific reason why you are not registered? Select all that apply.
    21.1 Not required by employer
    21.2 Not eligible to register
    21.3 Cost of registration
    21.4 Not required to practice (voluntary registration)
	Nominal

21.5 Semi-retired/retired 21.6 No longer practicing 21.7 Other	
21.a. If you selected Other, please specify:	Open

22. Which title(s) apply to you? Select all that apply.
 	
    22.1 Hear(ing) care assistant
    22.2 Hearing aid dispenser
    22.3 Hearing aid audiologist
    22.4 Audiologist
    22.5 Hearing therapist
    22.6 Clinical Scientist
    22.7 Healthcare scientist
    22.8 Allied Health Professional
    22.9 Lecturer/Senior Lecturer
    22.10 Teaching fellow/Senior teaching fellow
    22.11 Clinical lecturer
    22.12 Associate Professor/Professor
    22.13 Locum
    22.14 Other
	Nominal

22.a. If you selected Other, please specify:	Open
23. If you selected more than one, please rank them below in order of preference, from most to least preferred.	Open

24. Below are a list of audiological procedures and 5 audiological professionals, based on the title of registration. Consider each procedure and select the relevant professional in whose scope of practice it falls. Some procedures may apply to more than one professional.
 	
    24.1 Otoscopy Adults
    24.2 Otoscopy Paediatrics
    24.3 Adult audiometric assessment
    24.4 Paediatric audiometric assessment
    24.5 Tympanometry in Adults
    24.6 Tympanometry in Children
	Ordinal

24.7 Acoustic Reflex threshold testing 24.8 Speech audiometry (AB word list and Quick sin) 24.9 Otoacoustic emissions testing 24.10 Auditory evoked potentials 24.11 Vestibular assessment 24.12 Vestibular rehabilitation 24.13 Ear impression taking 24.14 Adult Hearing aid fitting 24.15 Paediatric Hearing aid fitting 24.16 Probe microphone measurements 24.17 Cochlear implant assessment 24.18 Cochlear implant rehabilitation 24.19 Bone anchored hearing aid assessment 24.20 Adult Aural rehabilitation 24.21 Paediatric aural habilitation 24.22 Hearing Therapy 24.23 Tinnitus assessment 24.24 Hyperacusis assessment 24.25 Tinnitus management 24.26 Hyperacusis management 24.27 Central auditory processing assessment 24.28 Management of patients with central auditory processing difficulties 24.29 Newborn hearing screening 24.30 Management of neonatal hearing screening programmes 24.31 Wax removal and cerumen management	
25. If there are any areas not listed above, please add them below and include the professional(s) as appropriate.	Open

Appendix 15: Demographics and Cohort Analysis

This appendix provides an overview of the demographics to indicate the characteristics of the sample participants when considering the data collected. It is an overview and not an explicit discussion to protect the confidentiality of the interview participants. Survey responses were anonymous as no identifiable information was collected. It also includes visual representations of overlap between cohorts.

All 337 participants (eight interviews and 329 survey respondents) are currently working or have worked in the audiology profession in the United Kingdom. Of the 337 participants five reported that they were retired and four semi-retired. It is not possible to know if the interview participants participated in the survey as the online platform anonymised the respondents.

With respect to gender, 268 participants (80%) identified as female and 69 (20%) identified as male. Audiology is considered as part of the STEM (*Science, Technology, Engineering and Manufacturing*) professions and data collected in 2021 by the Science Council state that women on average represent 40% of scientific body members compared to 34% collected in 2017 (Science Council, 2021). This data was collected from the various professional organisations that are members of the science council and the validity of the data depends on those organisations that did respond to the survey.

I contacted the four professional organisations that distributed the survey to collect demographic data. Two of the organisations provided information on gender and location (BAA and AIHHP), the third stated that they do not hold demographic data (BSHAA) and the last did not respond to the enquiry (BSA). The information provided by the British Academy of Audiology indicated a split of 24% male and 75% female. The number of women with BAA membership is higher than the percentage provided by the Science Council in 2021. The Association of Independent Hearing Healthcare Professionals (AIHHP) reported a membership split of 48% female and 52% male. It would have been interesting to compare the gender across the BAA and the private sector (BSHAA and AIHHP) to determine how the ratio's compare, but it is not possible with the data provided. Table 65 provides an overview of the demographic

information provided by two of the audiology professional organisations in the United Kingdom.

Table 65 – Information about gender provided by two of the audiology professional organisations in the UK compared to this study

Organisation	British Academy of Audiology (BAA)		Association of Independent Hearing Healthcare Professionals (AIHHP)		This study	
Total	1964		121		337	
Female	1468	75%	58	48%	268	80%
Male	467	24%	63	52%	69	20%
Non-binary/non-conforming	2	<1%				
Prefer not to say/blank	27	1%				

The age categories of the 337 participants covered the range between early twenties (graduates) to over sixties and seventies (retirees). In terms of work experience the sample presented with 40% (135 out of 337) reporting more than 21 years and 31% with 11 to 20 years in the audiology profession. Around 83 of the 337 participants indicated that they joined the profession before the age of 19 and nine over the age of 41.

Most of the 337 participants work (or have worked) in England (266) with 33 in Scotland, 22 in Wales and 20 in Northern Ireland. Four of the respondents indicated that they work in more than one home country, with two working in England and Scotland and two in England and Wales. Table 66 provides information about location as provided by two of the professional organisations in the UK.

Table 66 – Information about location provided by two of the audiology professional organisations in the UK

Location	British Academy of Audiology (BAA)		Association of Independent Hearing Healthcare Professionals (AIHHP)		This study	
Total	1964		121		337	
England	1602	82%	105	87%	266	78.9%
Northern Ireland	47	2.4%	3	2.5%	20	5.9%
Scotland	101	5%	9	7.4%	33	9.7%
Wales	127	6.5%	4	3.3%	22	6.5%
Overseas	87	4.4%				

All titles highlighted in the definition of an audiology professional used in this study were represented in the sample. This definition includes audiologist, hearing aid dispenser, hearing therapist and clinical scientist with representation of those professionals now working in Higher Education Institutes as well. Figure 77 provides a visual representation of the sample that combines interview participants and survey respondents. Though it is not possible to determine if the sample for this study is representative it can be said that the sample covers all aspects as highlighted in figure 77.
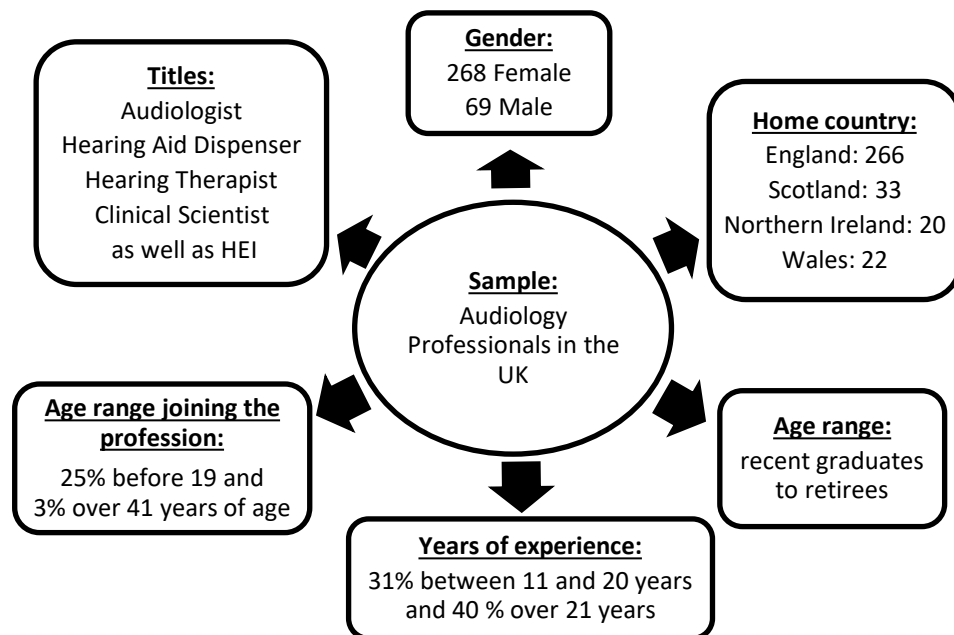

Figure 77 – Sample demographics (Interview participants and survey respondents

Cohort analysis

The experience of becoming the audiology professional

First exposure to Audiology

Interview participants described *first exposure to audiology* as <u>accidental</u> as none entered the profession by choice but often through employment, research, or exposure to hearing loss. The accidental joining of the profession at a young age has been replaced by the introduction of graduate level education in 2002/3 as evidenced by the 54 respondents stating that they were guided by career advisors at school and university.

The survey explored the *first exposure to audiology* further by asking the survey respondents how they learned about and why they chose the profession (questions 7 and 8) and for some it also asked the question of why audiology, especially if it involved a change in career (questions 9 to 11). Question 10 applied to those who made a career change to explore the professions they changed from, and question 11 explored why they decided to change careers. Reflecting on the survey design it became clear during the analysis that the order of questions 8 – 11 possibly resulted in some duplication, especially questions 8 and 11. Figure 78 demonstrates the overlap between the cohorts in terms of first exposure to the profession.

Codes identified in the open responses for Question 7 provided by survey respondents map to the four codes identified for the interview participants in the category of *first exposure to audiology.* This is demonstrated by the circles in red indicating overlap between the two cohorts. This overlap supports the validity of the categories identified for the interview participants and the application to the wider audiology professionals in the UK. The codes in green circles were additional sources as identified by the survey respondents and they are possibly linked to increased awareness of the profession by both school and university career advisors and advances in technology, such as the internet and social media.

Proportionally there appears to be a higher incidence (47%) for the survey respondents of exposure to hearing loss as an indicator of learning about the profession. The awareness of hearing loss implies a chance occurrence and indicates possible lack of awareness of the profession. Worth noting is that there are a few survey respondents that indicated the first awareness through work-based exposure

which ties with the interview participants, supporting the accidental nature of joining the profession. This is further supported by survey respondents and interview participants who indicated that they joined the profession before the age of 19 (25%).

The crossover with professions such as Speech and Language Therapy (SLT) and Opticians was mentioned by survey respondents. The link between SLT and Audiology is more established in other parts of the world such as the US, Canada, South America, India, South Africa, Australia, and New Zealand where the two professions overlap in education pathways and clinical practice (Goulios and Patuzzi, 2008). Some respondents also stated that they joined the profession by accident when studying on courses that offer dual qualification (SLT and Audiology). Optician services are linked to the private sector and business expansion models that introduced the sale of hearing aids in high street opticians.

The survey asked respondents why they chose audiology as a profession and answers were coded and grouped together as shown in figure 79 with seven broad topics identified: ***Research, Personal circumstances, Fell into it, Work experience, Healthcare profession, Awareness of hearing loss*** and ***Career prospects***. The green boxes are responses collected from those respondents who indicated that audiology was not their first career. Audiology is a mix of science and art (i.e., psychology) and this mixture featured in the responses collected, as a portion of respondents identified that using science while helping people (art vs science) was a reason for joining the profession.

Personal circumstances and career prospects presented with an underlying thread linked to funding and salary as motivation for joining the profession. The BSc (Hons) Audiology degree first offered in 2002/3 offered funding for study and placement which for some respondents provided an opportunity to change careers and/or improve prospects. It may be that it was about the funding more than the characteristics of the profession that attracted prospective students.
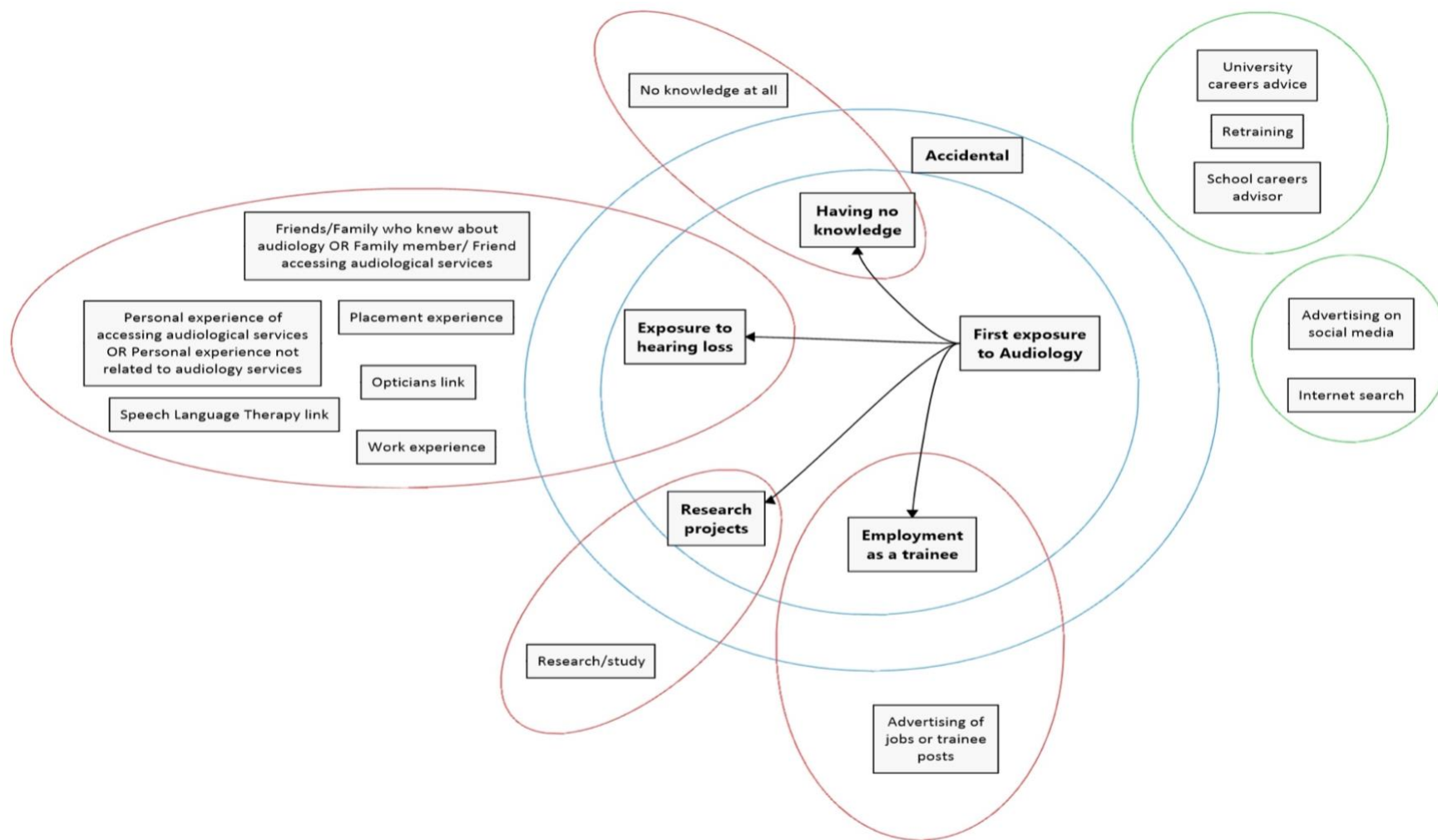
Figure 78 – First exposure to Audiology compared across interviews and survey
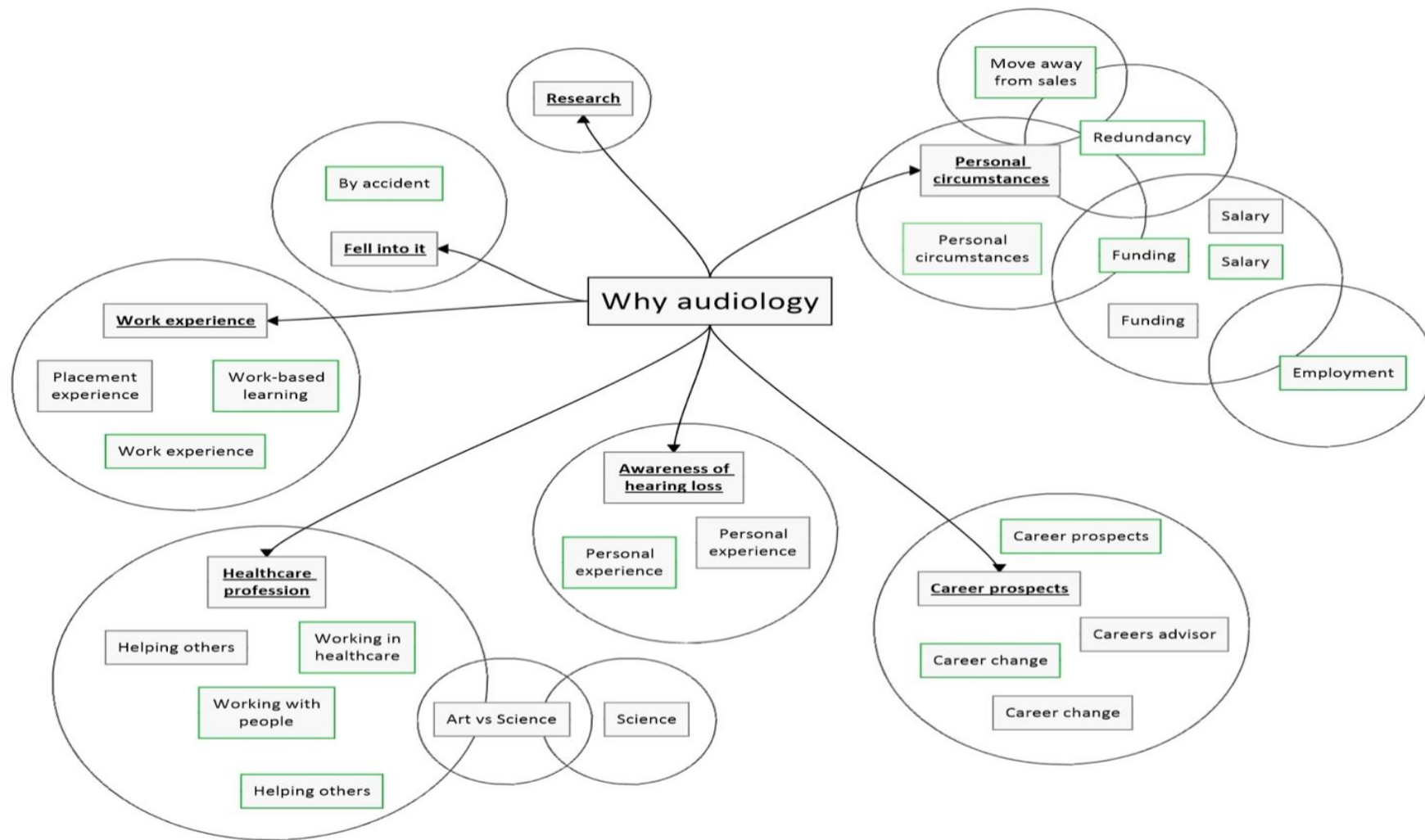
Figure 79 – Summary presenting survey respondents' responses to why they chose audiology

The survey then explored the possibility of career change as part of joining the profession. Of the 329 survey respondents and eight interview participants, 131 (126 survey respondents and five interview participants) indicated that Audiology was not their first career. This can be seen in the range of ages selected by survey respondents when joining the profession, with 36 joining after the age of 31.

Question 10 explored previous careers, jobs and or study to determine if there is a pattern of typical pathways. In the United Kingdom it is possible to join the profession through postgraduate pre-registration courses and considering the age spread of the survey respondents, it is not unusual to see the range of routes into the profession as presented in the results.

Figure 80 provides an overview of the range of different careers, jobs and or study that the 126 survey respondents listed. It is a broad range with areas such as *healthcare, physical sciences* and the *science of life and living matter* providing a link to Audiology while others focus on topics such as *agriculture, business/administration, teaching and the entertainment industry*, topics not normally linked to audiology. Some respondents came from a *military background*, worked as a *nanny* or for a *charity*. This range confirms that Audiology in the United Kingdom supports access from a wide range of backgrounds, often at postgraduate level thereby reducing the time it takes to change careers, unlike the pathways in countries like South Africa that requires entry at undergraduate level, even if changing careers.

The journey to becoming an audiology professional then continues from *first awareness* to the *many routes to becoming* an audiology professional.
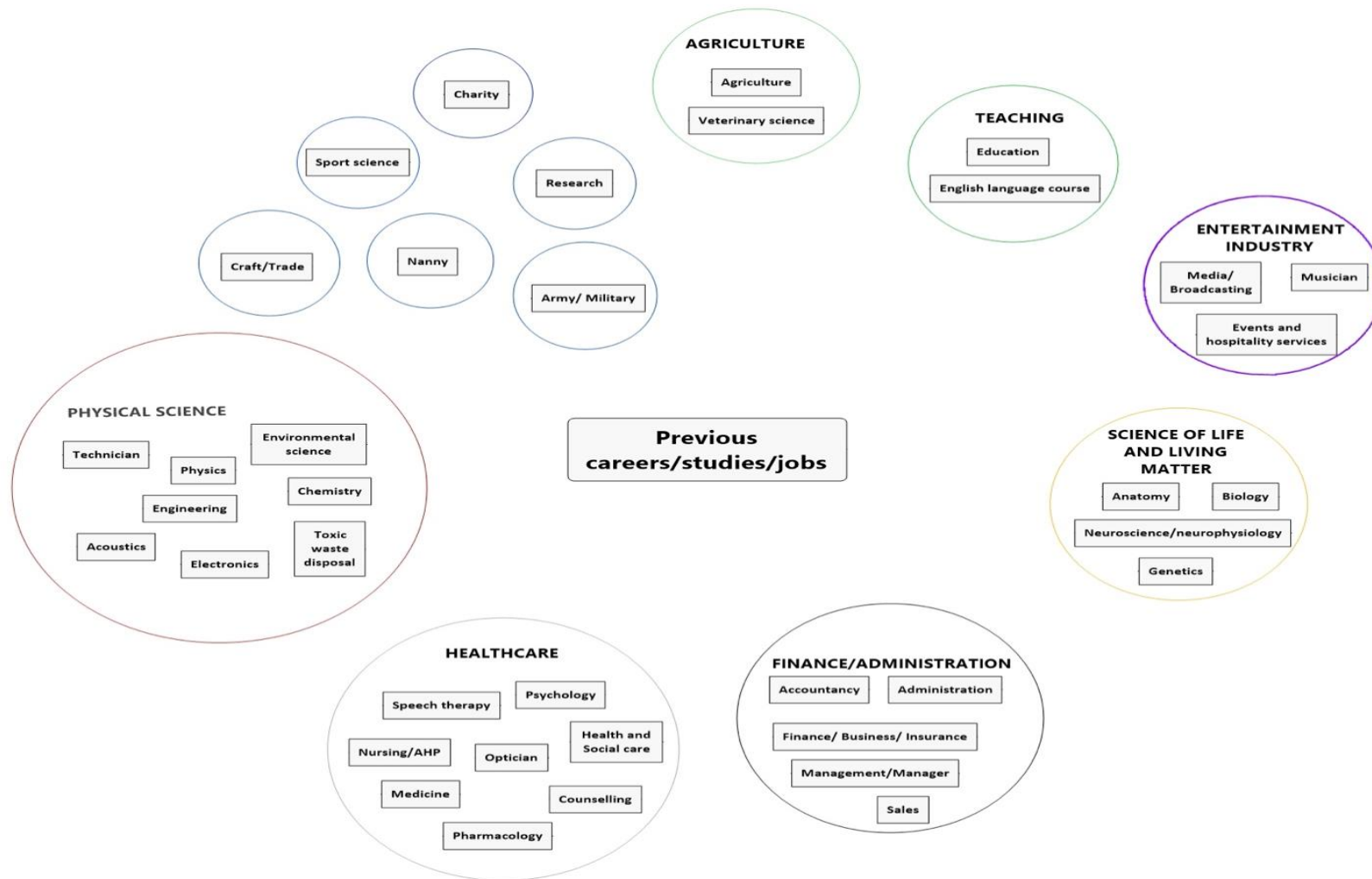
Figure 80 – Summary of previous careers listed by the 126 survey respondents

Many routes to becoming

The overall experience for the interview participants and their routes to becoming an audiology professional was one of **learning on the job** via professional exams (e.g., BAAT Parts 1 and 2). At times this was combined with some profession specific or linked theoretical study at undergraduate (e.g., BTEC National certificate in Medical Physics and Physiological Measurements) and or postgraduate (e.g., MSc in Audiology) level. Question 12 of the survey provided respondents with 22 pathways to select, some historical and some that are still being offered. There is a spread across the 22 courses with only SAG exams parts 1 and 2 not being selected. Survey respondents selected the same course(s) as those mentioned by interview participants as well as courses across the spread, providing representation across the range. Figure 81 provides a visual representation of the overlap between the interview participants and the survey respondents.

The circles in blue indicate the original codes identified in the interview participants with the red circles indicating the pathway they have completed. Circles in green refer to pathways selected by survey respondents and the purple circle refers to pathways completed outside of the United Kingdom. Pathways in yellow circles represent the different titles not provided in the list of 22, increasing the rage of pathways listed in the survey. Pathways highlighted in turquoise are still available currently, but they lead to different professionals within the audiology profession in the UK, resulting in a confusing landscape for prospective applicants.

Analysis of the survey responses indicated that there is a portion of the profession that has completed more than one pathway to enter audiology, and this corresponds with three of the interview participants who also completed more than one pathway. An example of this as presented by survey respondents, include completing the professional examinations followed by the undergraduate BSc pathway e.g., BAAT parts 1 and 2 followed by BSc (Hons) Audiology or BSc (Hons) Healthcare Science (Audiology) PTP.

The Doctor of Audiology is the entry qualification to practice as an audiologist in the United States, but it has not been included in the international grouping. The survey respondents that listed this award in their response completed a United Kingdom pathway before. The motivation for completing more than one audiology pathway will

be discussed further in *Being an audiology professional* but first the impact of the different pathways will be explored in the next theme, **Who am I?**
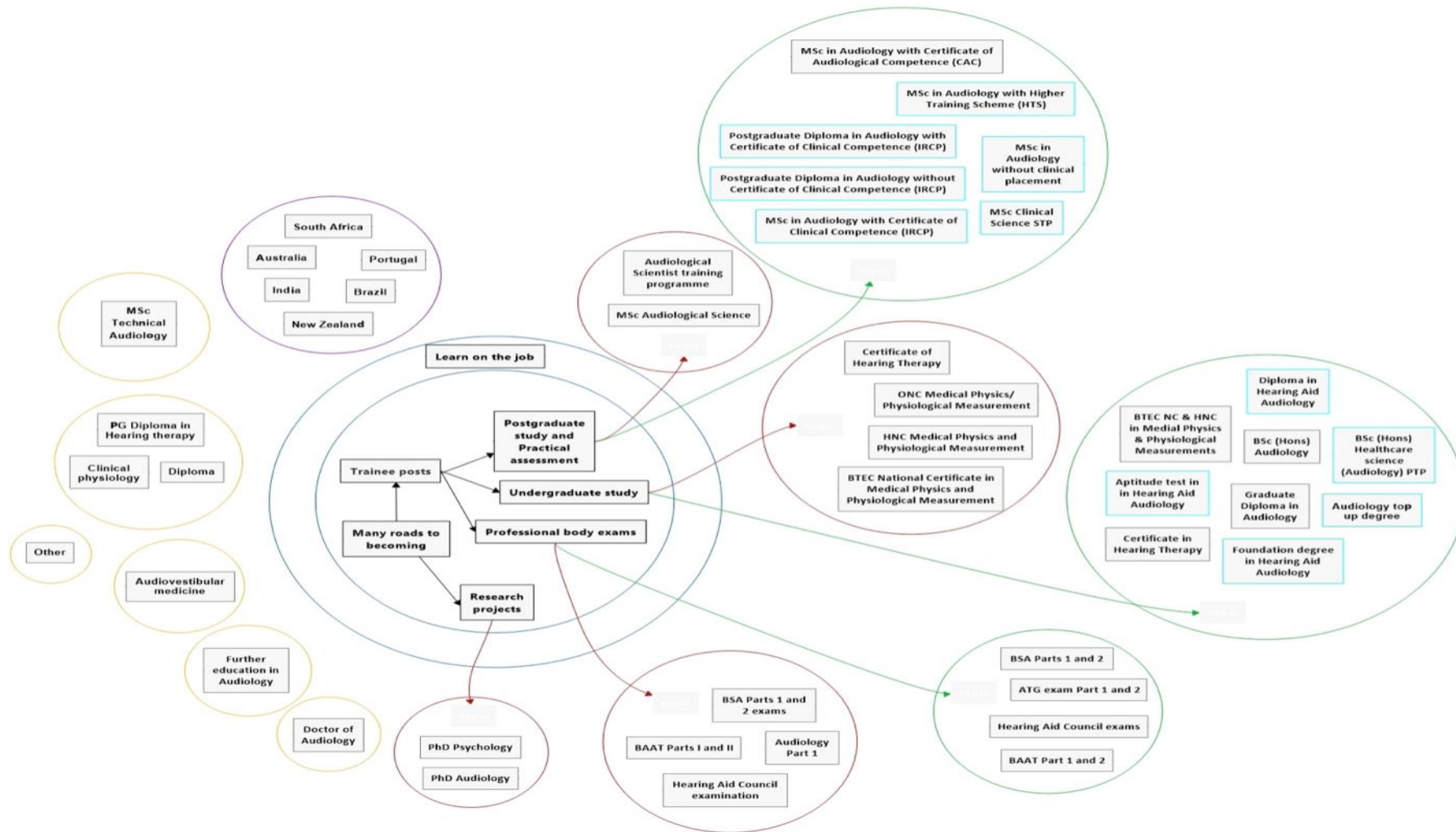
Figure 81 – Many roads to becoming compared across the interview participants and survey respondents

Who am I?

With the range of pathways to join the audiology profession in the United Kingdom identified in the *many routes to becoming,* the focus shifts to the titles used by professionals. The titles used by the eight interview participants to refer to themselves (preferred titles) were used as a starting point for developing the list of options in question 22 to allow survey respondents to self-select their preferred title as well as adding others. The options provided were a mixture of protected titles and titles linked to voluntary registration as well as titles linked to higher education.

Question 12 provided information on possible eligible titles linked to the different pathways. To compare the interview participants and survey respondents, the first step was to compare the eligible titles based on the pathway taken. This was a complex task as some pathways may allow eligibility to more one than title e.g., a BSc (Hons) Audiology course in one university may have been HCPC approved for Hearing Aid Dispensing as well as RCCP accredited for registration as an audiologist, but this does not apply to all BSc (Hons) Audiology courses. It was more complex to apply the same strategy to the interview participants as some participants followed non – traditional routes into the profession. An example of this was the two participants who joined the profession through the research pathway, and both may be eligible to use the title of clinical scientist (via the original title of audiological scientist). Eligible titles for the interview participants are indicated below the dividing line in figure 82 with the titles listed below the line for the interview respondents based on the individual pathways taken.

The analysis of the many pathways for both cohorts considered the eligible title that will be used on registration – statutory or voluntary. Of the 329 survey respondents and eight interview participants, 231 were eligible to use one title, 63 to use two and three to use three titles based on the pathway taken. This remains an estimation as it is unclear if courses selected by respondents had more than one approval/accreditation so the eligibility of titles may be more than presented. Figure 83 provides an overview of eligible titles for interview participants and survey respondents.
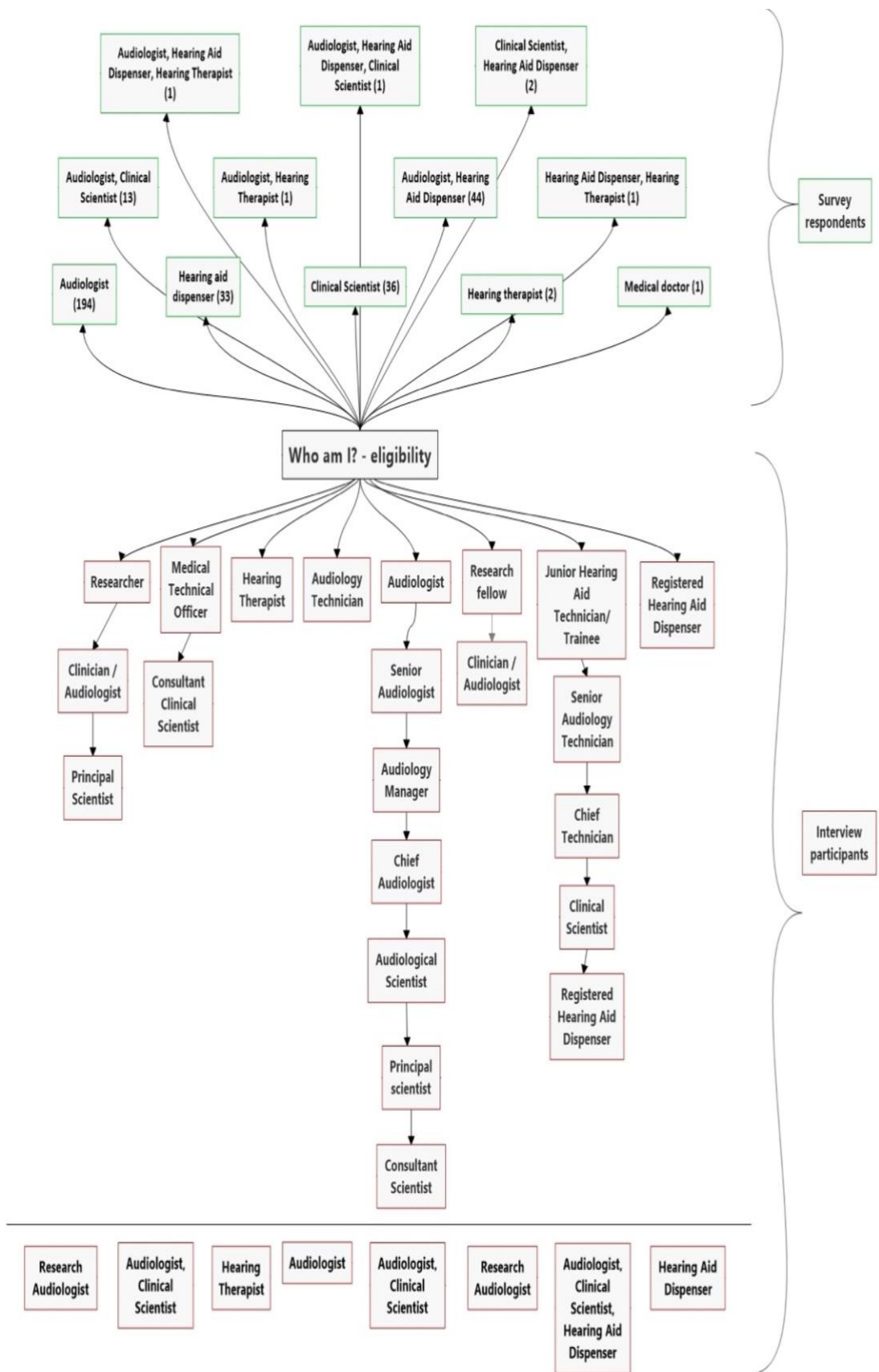
Figure 82 – Overview of eligible titles based on pathway for interview participants and survey respondents

Eligible title overview

Title	Count
Audiologist	195
Audiologist, Hearing Aid Dispenser	44
Clinical Scientist	38
Hearing Aid Dispenser	34
Audiologist, Clinical Scientist	15
Clinical Scientist, Hearing Aid Dispenser	2
Hearing Therapist	3
Audiologist, Hearing Aid Dispenser, Clinical Scientist	2
Hearing Aid Dispenser, Hearing Therapist	1
Audiologist, Hearing Aid Dispenser, Hearing Therapist	1
Audiologist, Hearing Therapist	1
Medical doctor	1

Figure 83 – Eligible title overview for interview participants and survey respondents

Question 22 provided information about the survey respondents' preferred title(s) as well as an opportunity to consider the number of titles selected. Analysis of the interviews provided an overview of the preferred titles for each of the interview participants. Of the 329 survey respondents and eight interview participants, 265 selected the title of audiologist. Overall, only 168 survey respondents and three interview participants selected only one title from the list. The titles listed by survey respondents in *other* provides an interesting overview of all the titles used in the audiology profession as it referred to titles linked to job roles, protected titles and or other qualifications such as Speech and Language Therapist and Cognitive Behavioural Therapist.

Figure 75 in section 6.7 provides a visual representation of the titles identified by the interview participants and survey respondents as well as the number of titles per individual.

Number of titles per respondent

Titles selected as 'other':
- Specialist Audiologist
- Research Audiologist
- Specialist senior audiologist
- Will hopefully be clinical scientist soon.
- Trainee associate audiologist
- trainee Associate Audiologist
- Trainee hearing aid dispenser
- Associate Audiologist

Options added without selecting 'Other':
- Paediatric audiologist
- Advanced Audiological Practitioner
- Manager of newborn hearing screen
- Tinnitus and complex patient lead
- Newborn Hearing Screening Coordinator, Vestibular audiologist
- Service Lead
- Head of department
- Cognitive Behavioural therapist

Survey respondents
- Healthcare scientist (47)
- Allied Health Professional (43)
- Clinical lecturer (8)
- Hear(ing) care assistant (4)
- Lecturer/Senior Lecturer (11)
- Hearing aid dispenser (57)
- Audiologist (262)
- Hearing therapist (13)
- Clinical Scientist (54)
- Locum (6)
- Teaching fellow/Senior teaching fellow (4)
- Hearing aid audiologist (57)
- Other (36)

Who am I?

Interview participants
- Researcher → Clinician / Audiologist → Principal Scientist
- Medical Technical Officer → Consultant Clinical Scientist
- Hearing Therapist
- Audiology Technician
- Audiologist → Senior Audiologist → Audiology Manager → Chief Audiologist → Audiological Scientist → Principal scientist → Consultant Scientist
- Research fellow → Clinician / Audiologist
- Junior Hearing Aid Technician/ Trainee → Senior Audiology Technician → Chief Technician → Clinical Scientist → Registered Hearing Aid Dispenser
- Registered Hearing Aid Dispenser

Options added with selecting 'other':
- Doctor of Audiology
- Head of Department
- Clinical Lead in Audiology
- Senior Paediatric Audiologist
- Chief Audiologist
- Head of Audiology
- Registered Hearing Aid Dispenser
- Lead Paediatric Audiologist
- Qualified Audiologist and Trainee Clinical Scientist (Audiology)
- Advanced Clinical Practitioner
- Senior Audiologist
- Retired Clinical Scientist
- Specialist Audiologist
- Team Leader
- Scientific Director
- Research scientist
- Speech Language Pathologist, Deaf educator, Hanan training cert, AVT Cert
- Paediatric Audiologist, Newborn Hearing Screening Manager
- Hearing Services Manager
- Head of Service
- Also, operational lead of large service
- Audiovestibular Physician
- Paediatric Audiologist
- Paediatric Audiologist
- Audiological Scientist, Local NHSP Manager
- Manager
- Research Audiologist
- Secretary of a professional Association through my main job

Summary of preferred titles used across interview participants and survey respondents (also in section 6.7)

The titles listed in red represent the interview participants and those in green the survey respondents. Overlap between the two cohorts is noted specifically around titles linked to registration e.g., Audiologist, Clinical Scientist, Hearing Aid Dispenser and Hearing Therapist. Figure 75 includes additional titles offered by survey respondents with some linked to patient population (*paediatric audiologist*) and others linked to specialist areas (*tinnitus and complex patient lead*). Some titles imply seniority linked to job description (*specialist senior audiologist, chief audiologist*) as well as advanced skills (*advanced audiological practitioner*). The use of job titles is likely linked to the context in which audiology professionals work, especially the National Health Service and the iterations of change in career framework structures.

Reviewing responses that listed job descriptions and level of seniority indicated that use of titles may be linked to further academic study (postgraduate study not linked to a specific registerable title – voluntary and or statutory) or perhaps to signify a level of knowledge or skill. The range of titles create a confusing context where audiology professionals from different pathways work together. This will be considered in the section discussing ***Being the audiology professional.***

In the United Kingdom there is a discrepancy between eligible, registerable, and preferred title available to audiology professionals. The registration landscape complicates the use of titles as many have eligibility to become registered as a specific audiology professional but due to their job description they are not required to register with that title, and not all titles are regulated by legislation. For example, a graduate from a BSc (Hons) Audiology course <u>may</u> register as an audiologist with the RCCP (**voluntary**) if they work in the NHS but <u>must</u> register as a hearing aid dispenser with the HCPC (**statutory**) should they work in the private sector, <u>if</u> the course allows eligibility of both titles through accreditation/approval.

The work context and job description determine the registration pathway so there is no automatic link between the course and registration eligibility that is present in professions like Speech and Language Therapy (SLT) and other Allied Health Professions. A student on an SLT course will be eligible to register as an SLT with the HCPC regardless of working in the private sector or NHS. There is further evidence from the survey respondents that a preferred title may not be linked to the eligible title, especially where respondents who are only eligible to register as a Hearing Aid

Dispenser prefer the title of audiologist. Interview participant seven referred to the use of audiologist in the private sector when the service offered is regulated by the HCPC and the recognised title is hearing aid dispenser.

Participant 7

"P7: …the title of the course for hearing aid audiologists but interestingly enough, you see most adverts, there's no "hearing aid", they are called audiologist.
Interviewer: But that is because audiologist is not a protected title.
P7: Yes. I actually think it's wrong because when they register, I'm not 100% certain about this now, they register as a hearing aid audiologist.
Interviewer: Hearing aid dispenser, that's the protected title.
P7: But they don't call themselves that, they call themselves audiologists which is wrong because they have a different qualification.
Interviewer: I think it's not necessarily even the qualification, it is the scope of practice.
P7: Yes.

The comparison between eligible, preferred, and registered title of the survey respondents indicates that there is understanding of the use of voluntary and statutory titles for 67% (see section 6.5.3 e)) of the survey respondents when it should be clear to all audiology professionals.

Summary

The three-step journey to **becoming an audiology professional** that begins with *first exposure to audiology*, followed by the *many routes to becoming* culminating in *who am I* provided a framework to compare the results from the interview participants and survey respondents. The categories identified in the eight interviews are supported and expanded on by the wider response from audiology professionals in the United Kingdom (329 participants).

Becoming an audiology professional is a journey that starts with the first accidental exposure to the profession, supplemented by some survey respondents who learned about the profession through career guidance. Accidental exposure to the profession implies that recruitment is based on chance and that the profession of audiology does not compare to Allied Health Professionals or Medicine in terms of public awareness.

The survey respondents expanded on the ***many routes to becoming*** an audiologist and more options appear to exist now compared to the initial **learning on the job** pathways indicated by the interview participants and discussed in chapters two and three. The education landscape is more complex than it was before the introduction of the BSc (Hons) Audiology and Modernising Scientific Careers programme despite some pathways no longer existing.

In the UK, titles have been linked to academic levels to differentiate between skill and knowledge level but rather than keeping it within the professional title a new title is awarded, like adding yet another root to fibrous root system that is the fragmented profession of audiology. The awareness of the profession by careers advisors at university, school and adult support services are encouraging and could be included in any future recruitment pathways to promote the profession. However, for this to be effective there needs to be a review of who the professional is (***who am I?***) and consolidation of the routes to simplify the pathway.

The confusing context will be discussed further in the next theme – ***Being the professional***.

The experience of being the professional
Setting the scene

In this section we consider the experience of the individual who enters the workforce with a title by exploring the context. The context and title depend on the pathway and choice of employment and there is a complex link between qualification, title, and employment sector, as discussed before. Some audiology professionals work across more than one sector. This creates confusion within the profession as professionals will then move between titles and scopes of practice, often within the same working week fragmenting the professional role. An example would be an audiologist working with adults with learning difficulties in the NHS for three days a week and then as a hearing aid dispenser in the private sector for two days. This will mean that they may not be able to see the same patient population when working as a hearing aid dispenser and must comply with referral criteria that would not apply in their NHS practice.

There is an additional complexity in this statement as the HCPC recognises there may be a need to move into a new scope of practice and that it is important to address gaps in knowledge, skills and experience with additional training or support. The level of knowledge, skills and experience required for the role will be informed by the employer and relevant professional organisation's advice. Therefore, a hearing aid dispenser can include the population mentioned above without adjusting the title of registration, if the audiology professional is suitability qualified (HCPC, 2021)

The survey included two sets of questions focusing on scope of practice – Questions 16 and 17 focuses on the areas relevant to the respondent's professional expertise and Questions 24 and 25 on their perceptions of the differences in scopes of practice between the different audiology professionals. The results from questions 24 and 25 were analysed with two different approaches. The first considered the typical audiological procedures that form part of the curriculum for each audiology professional, as well as a comparison between audiologist and clinical scientist and the responses from survey respondents. The second approach considered the scope of practice of audiology professionals grouped across different procedures and population. This was done to consider the impact of the difference between theory and practice.

Typical curriculum content was used as a comparison to simplify the analysis as it should be theoretically consistent across courses. In the NHS different procedures are performed according to banding level (BAA, 2014) but the audiology professional at any level should have access to the specific information at a theoretical level, even if they do not perform the procedures as part of their employment level. The curriculum content for hearing aid dispensers can vary between courses, specifically the inclusion of audiological procedures such as immittance measurements, speech audiometry and test box measurement.

Comparing procedures with the scopes of practice of different audiology professionals required comparison with international scopes of practice as the United Kingdom scope of practice for audiology professionals is closely linked to NHS job descriptions for the different banding levels.

In 1997, the European Federation of Audiological Societies (EFAS) created a subgroup, European Audiology Training (EAT), to focus on the development of a curriculum for what they called a "General Audiologist". It was hoped that this would provide guidelines for European countries to provide Audiological training and to ensure some consistency across Europe. In 2001, a proposal was presented and subsequently adopted by EFAS entitled "The General Audiologist – A proposal for a model training programme in general audiology for Europe". It suggested a four-year honours degree as a minimum standard with at least six months of practical training. This document also lists the relevant areas of audiological practice which includes Rehabilitation and Educational Audiology.

There is differentiation between hearing aid dispenser/hearing aid technician and audiologist across countries. Steenkamp and Hougaard (2015) compared two distinct roles in audiology across the United Kingdom and Denmark and table 67 provides an overview of these differences and includes two other countries in the comparison as well (Canada and South Africa).

Table 67 – Summary of the training routes and corresponding titles in Audiology in four countries (Steenkamp and Hougaard, 2015)

	Assistant Audiologist		Audiologist	
Country	Training route	Title	Training Route	Title
Denmark	Technical School: 2.5 years	Assistant Audiologist	BSc and/or MSc	Audiologist
United Kingdom	Foundation degree / Diploma in Higher Education in Hearing Aid Audiology	Associate Audiologist (NHS); Hearing Aid Dispenser* (private sector) *This protected title is linked to statutory regulation in the United Kingdom.	BSc and/or MSc	Audiologist
South Africa	Diploma in Hearing Aid Acoustics	Hearing Aid Acoustician	BSc	Audiologist

| Canada

(This can vary between provinces /territories) | College or University diploma or certificate

(Programs are typically 2-3 years in length and focus on hearing testing and hearing aid technology) | Hearing Instrument Practitioners | MSc | Audiologist |
|---|---|---|---|---|

This creates quite a confusing lived experience when comparing the eight participants' accounts and 329 survey respondents' responses and raises the question about professional identity of the whole profession. This begs the question if there is a link between pathway taken and professional identity or if it might be context related i.e., work environment. For example, one audiology professional can choose between two different work environments which directly impact the professional identity, as the title is often linked to employment.

The eight interview participants worked across different sectors and some in more than one, often using more than one title. This ranged from the NHS, private sector, and higher education institutes (HEI). Questions 14 and 14a provided survey respondents with a list of different employment sectors based on those identified by the interview participants. Additional options included working with hearing aid manufacturers and voluntary sector as well as retirement. Table 68 provides an overview of employment sectors for the interview participants and survey respondents.

Table 68 – Employment sectors for interview and survey participants

Sector	Interview participants	Survey respondents	Total
NHS	7	298	305
Private sector	2	113	115
HEI	5	32	36
Manufacturer	0	13	13
Voluntary sector	0	13	13
Retired	5	1	1
Semi-retired	0	4	4
Other	0	10	10

The NHS, private sector and HEI featured for both cohorts as the top three employment sectors. Of the 329 survey respondents, 188 indicated that they have worked in only one sector, and this applies to three of the eight interview participants as well. Table 69 below provides and overview of one sector employment across both cohorts.

Table 69 – One employment sector across both cohorts

Sector	Interview participants	Survey respondents	Total
NHS	2	188	190
Private sector	1	25	26
HEI	0	1	1
Manufacturer	0	0	0
Voluntary sector	0	0	0

Of the 329 survey respondents, 115 indicated that they have worked or are working across more than one sector, and this applies to five of the eight interview participants as well. The NHS and private sector overlap were explored for the survey respondents and Table 70 includes the interview participants.

Table 70 – Sector overlap across both cohorts

Sector overlap	Interview participants	Survey respondents	Total
NHS and Private sector	1	83	84
NHS not Private sector	4	27	31
Private sector not NHS		5	5

The fragmentation of the profession is therefore not just linked to the different titles but also within and across the employment sectors. Within the NHS the fragmentation exists between the professionals, specifically audiologist, hearing therapist and clinical scientist. Hearing aid dispensers can work in the NHS, typically as an associate audiologist adding a fourth fragment. It is important to note that the differentiation between the titles and their scopes of practice varies across the NHS and between the four home countries. Audiologists are part of the Healthcare Science professions and as such follow the Healthcare Science Career Framework. The framework refers to the different qualifications at each level. The framework should be interpreted alongside the Agenda for Change banding system which determine the job descriptions and salary scales within the NHS. Table 71 expands table 14 to include the typical Agenda for Change banding levels linked to the Healthcare Science Career Framework level.

Interview participants one, two and seven referred to this fragmentation by considering its history but also the fact that the division between the audiology technician and the clinical scientist or audiological scientist is unclear in terms of audiological procedures and patient population and that the difference is often linked to academic level of study.

Participant 1

"I don't…why audiology has been so fragmented."

"It may be that it is such a broad subject, you know, encompassing in a way that maybe isn't quite the case in other disciplines. You know, going from, you can have counselling, you can have hard physicists, you can have psychoacousticians, you have developmental paediatricians, you know, and so on and so on and maybe it's because of that."

Participant 2

"I think in terms of the clinical workload I was doing in ▮▮▮▮, probably the scope wasn't very different. But what I recognise, is that my skills around decision making, understanding the wider context of what I was doing… I had missed out on some of that training so sort of later on doing the MSc. It gives you some of the part you would have benefitted from earlier on. But in terms of what they got…I got as good a result as good a test or probably better than in some departments because I had free reign to go and learn how to go and do different stuff. I wasn't protocol bound."

Participant 7

"I had this argument many times, that if you took the non-graduate training and the four year degree that was available prior to PTP undergraduate course and the MSc course, if you looked at the syllabus, they weren't that much different, with similar topics being taught. But it was about the depth of learning and the application of that learning that made the difference."

The fragmented profession therefore consists of the range of titles from various routes to becoming an audiology professional linked to regulation, both voluntary and statutory, all set within the different employment sectors and represented across the

many professional organisations. Figure 84 provides an overview of the context as described by the interview participants and survey respondents (section in red).

Table 71 – Links between level of education, the courses within the MSC programme, the HCS career framework and Alternative Audiology awards available including typical Agenda for Change banding (derived from Steenkamp, 2014; DH, 2010; Skills for Health, 2010)

Level of Education	Modernising Scientific Careers (MSC) programme	Education award title MSC	HCS Career framework	Alternative awards in Audiology (from 2010 onwards)	NHS Agenda for Change Banding*
Doctorate level	Higher Specialist Scientific Training Programme (HSST)	Doctorate in Clinical Science (DClinSci)	Consultant clinical scientist (Career level 8 and 9)	PhD / Professional Doctorate / Audiology Doctorate (US)	Band 8 (a-d)
MSc level	Scientist Training Programme (STP)	MSc in Clinical Science	Clinical scientist (Career level 6 and 7)	MSc in Audiology + HTS	Bands 6 and 7
BSc level	Practitioner Training Programme (PTP)	BSc (Hons) in Healthcare Science (Audiology)	Healthcare science practitioner (Career level 5)	BSc (Hons) Audiology (Top up) / PgDip/MSc in Audiology + CCC	Band 5
Foundation degree / Diploma in Higher Education / Higher National Diploma	Associate Training programme	Healthcare Science Diploma Level 4	Healthcare science assistant and associate (Career level 1 – 4)	Foundation degree in Hearing Aid Audiology / Diploma in Higher Education in Hearing Aid Audiology	Band 4
Higher National Certificate / Certificate in Higher Education	Assistant Training programme	Healthcare Science Certificate Level 2		Hearing Care assistant	Bands 1 – 3

It should be noted that Agenda for Change banding in Audiology is not directly linked to qualification level but rather experience. Hearing aid dispensers have been employed at band 5 level. The dotted lines indicate flexibility as there is overlap between bandings and level of education
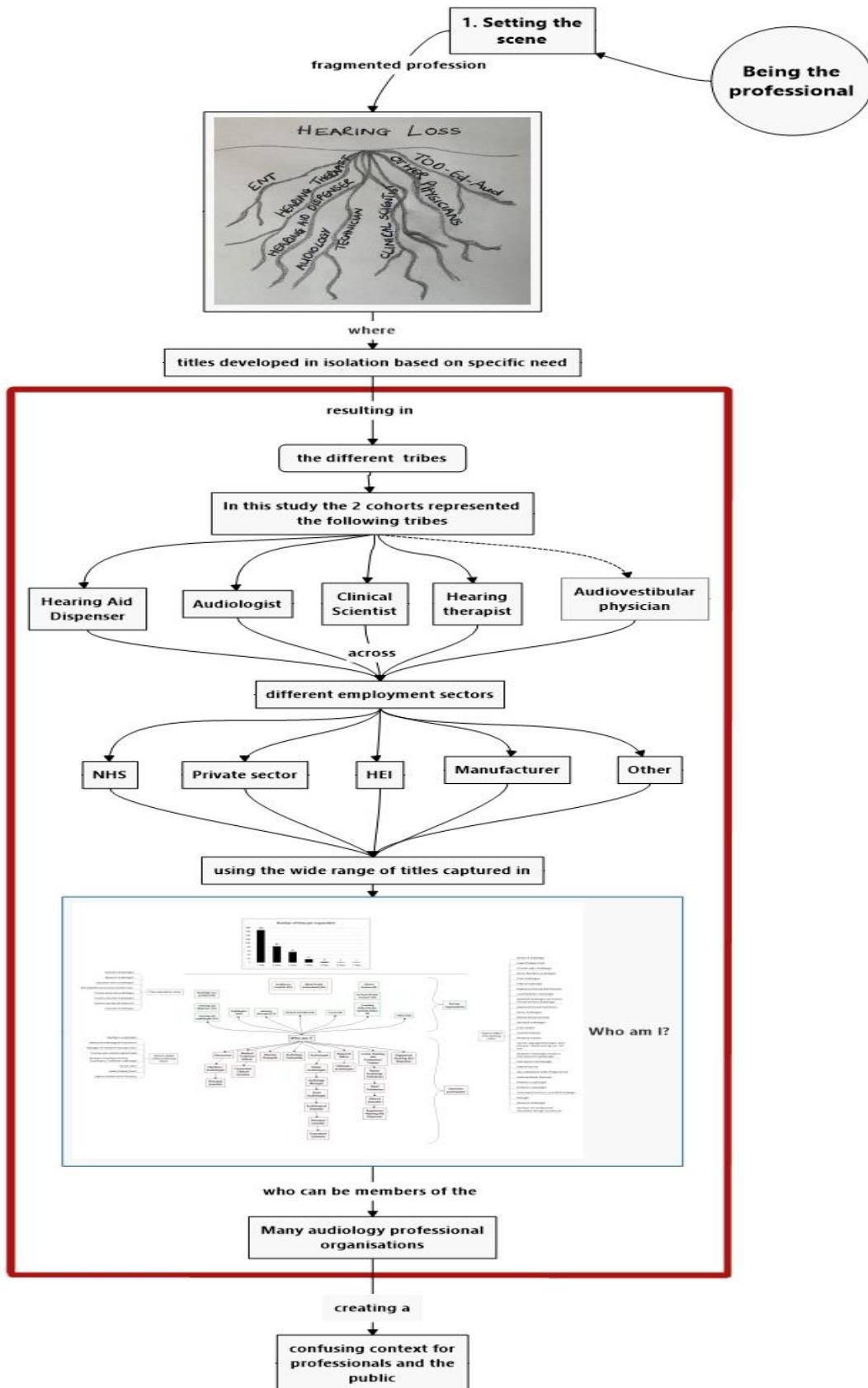
.

Figure 84 – Overview of setting the scene for both cohorts

Tribal views

For both cohorts joining a tribe typically starts with the first one they encounter. This can be via the job or through the education pathway they chose. The interview participants did this mostly through **learning on the job**, so they did not always know about **the tribes** until they joined the profession. For most survey respondents this happened before they started work when technician pathways changed from vocational pathways to enrolling on university courses. Awareness of other tribes occurred for interview respondents while working, research and or through the different professional organisations. Survey respondents add another option of this awareness through education pathways – sometimes this is linked to the different registerable outcomes of their course and other times through sharing clinical practice during education at university or on placement. The current work environment provides more overlap between the different tribes as movement between the NHS and the private sector is easier with the introduction of the protected title and statutory regulation in hearing aid dispensing. It is important to note the survey did not ask directly about perceptions of other tribes but rather explored understanding of the other tribes and their skills.

Interview participants mentioned the relationship between medical and nonmedical audiology professionals. One survey respondent where from that part of the profession supporting the overlap with medical colleagues, specifically through the audiovestibular physician pathway. The survey may have reached more audiovestibular physicians through membership with audiological professional organisations but the decision to respond hinged on the statement at the start about working in the audiology profession. Other audiovestibular physicians may see themselves working in the medical profession.

The survey focused on audiology professionals working in healthcare, but it is important to note the overlap with education, especially in the historical provision of paediatric hearing health care. The link with education applies specifically to teachers of the deaf and educational audiologists.

The impact of tribal views according to the interview participants were seen in the projections that there were differences between them, as stated by participant seven.

Participant 7

"We always had the MSc in Audiology and the difficulty about that, you had the audiology technician or the audiologist and then you had the clinical scientists and the two were projected to be very different."

These projections came in part from the professional organisations as before the BAA there were two professional organisations representing clinical scientists and audiology technicians with a third representing hearing therapists. A further aspect of these projections is linked to the nature of the education pathways, vocational with undergraduate study (BTEC) for technicians and postgraduate level for clinical scientists. The introduction of the undergraduate BSc (Hons) Audiology education pathway leading to eligibility to register as an audiologist, and the merger of the three organisations presented the potential to improve the relationship. There is also potential to perpetuate the tribes through education pathways as they are viewed as separate rather than building on each other with individuals perpetuating the elitist views mentioned by the interview participants. Registration also separates the tribes, with statutory regulation for some and voluntary for others.

The different education pathways and linked titles remain, and the projections now persist between the remaining professional organisations, BAA and BSHAA, representing the NHS and private sector. The introduction of the Modernising Scientific Careers (MSC) programme brings new education pathways and titles supporting participant seven's statement that the tribalism has moved from clinical practice to the education system – ***"that change is yet to happen".***

Participant 7

"that tribalism now sits within the education or the academic system."

"the people that came through the traditional way and are in their more mature years, don't like the new way of learning, of graduates coming in and as a result… what am I trying to say here that… I won't say they dislike it but when the old school has gone and left, the new ones won't know any different so in other words, that change has yet to happen."

The employer perpetuates the tribal views through the Agenda for Change banding structure (salary) and the Healthcare Science Career Framework (education level) creating different levels linked to specific education pathways and at times specific titles. There is a further divide between the private sector and the NHS adding a layer to the different tribes, one of competition.

Services in the NHS are free at point of access which means that hearing aids are provided to patients free of charge but waiting lists can mean that it takes months to years before a patient can access services. In the private sector the sale of hearing aids is regulated through statutory regulation and patients must pay for the service, but there is no waiting list. The two services are offered separately but the introduction of initiatives by the Department of Health in England, such as Any Qualified Provider (AQP), created an overlap where patient pathways in the NHS can be provided by the private sector. This overlap creates proximity for the professionals from the different sectors possibly contributing to the tribal views. Question 15 provides some further information about tribal views as survey respondents were asked what motivated them to seek employment in a specific sector. Various combinations were explored and linked to motivating statements as discussed in the results chapter, but most relevant were the responses linked to a move between the NHS and private sector (in either direction).

The incidence of survey respondents with more than one title and therefore membership of more than tribe creates a confusing context as it is no longer clear where the boundaries lie. Professionals can see themselves as members of more than one tribe bringing the discussion back to the context that people work in. The continued existence of the range of titles and therefore tribes perpetuate a context where tribalism continues to split the audiology profession in the UK. Participant two referred to the views between tribes and how having a title means you are listened to more. Figure 85 provides an overview of the number of tribal memberships for both cohorts and figure 86 provides and overview of the tribal views across both cohorts.
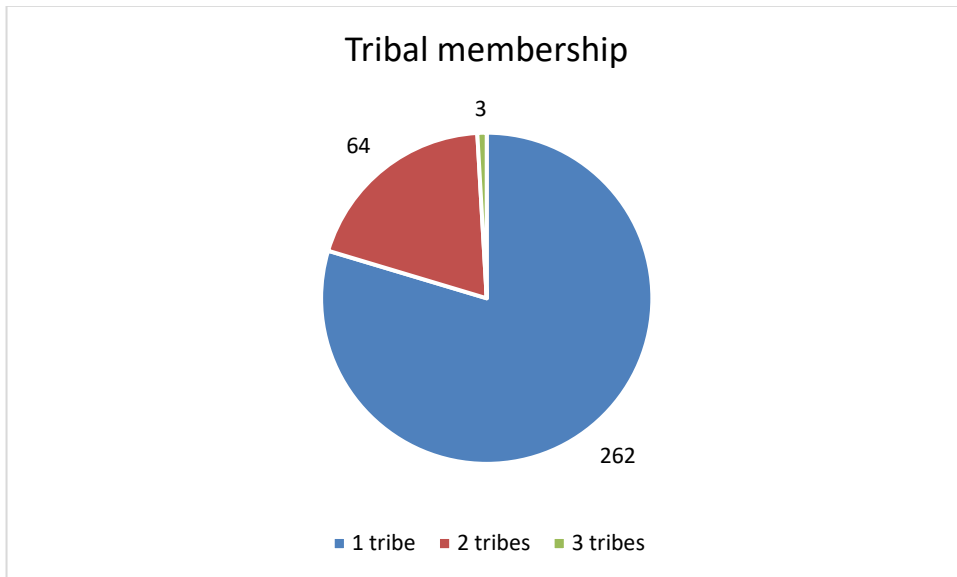
Figure 85 – Number of tribal memberships for both cohorts

Participant 2

"It certainly helped enormously subsequently, there are times when inside you are going "oh my god, I would never have said I would do this years ago" but just by saying "well I have been assessed and I am a consultant clinical scientist" makes people listen to you more than if you are going "I am a head of audiology" sadly…"

This brings the discussion back to those audiology professionals who complete more than one audiology course and their reasons for doing so. This will be discussed further in the category of ***Continuing their professional development.***
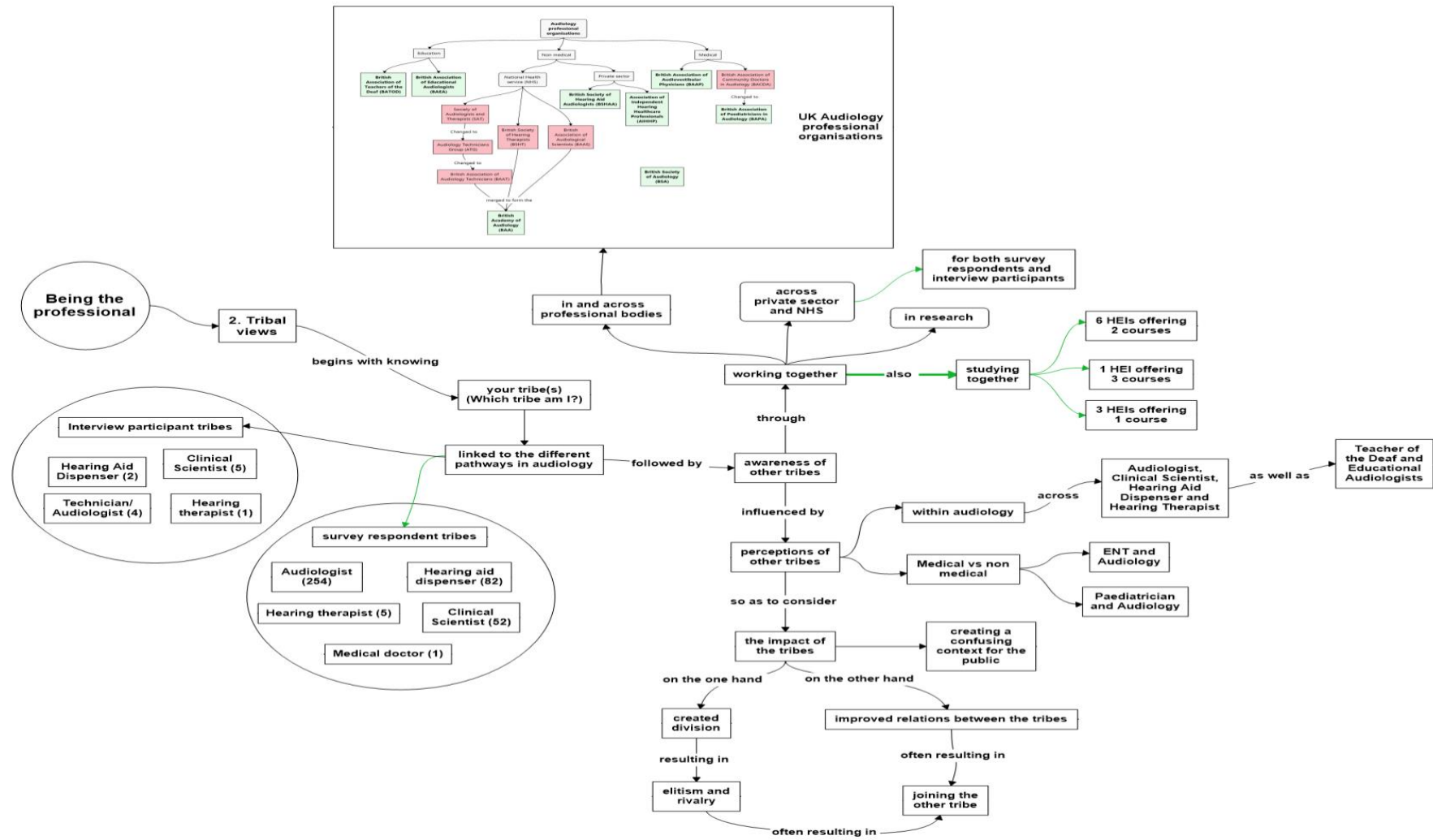
Figure 86 – Overview of tribal views for both cohorts

Continuing their professional development

Personal development was identified as a category for interview participants as all of them indicated further learning which involved enrolling on a range of university courses and / or **learning on the job**. Survey respondents provided information about further education or development of skills in questions 17, 12 and 12a. Questions 12 and 12a relate to education pathways completed as part of further development. Some survey respondents provided courses not related to audiology where others (27) completed more than one audiology qualification. This corresponds with four of the interview participants who also completed more than one audiology qualification.

The interview participants and survey respondents that completed more than one audiology qualification is an interesting group. Several chose to do another qualification because they felt that it improved their standing in the profession as well as specialising in an area of audiology. The combination of two qualifications in audiology, both leading to eligibility to register as an audiologist, will often only vary in terms of academic level as the professional knowledge is the same.

Question 17 provided information about other courses completed or skills obtained by the survey respondents. Figure 87 provides an overview of how the two cohorts continued their professional development.

Summary

The categories identified in the eight interviews are supported and expanded on by the wider response from audiology professionals in the United Kingdom (329 participants). Both cohorts provided a picture of what it was like to be an audiology professional in a confusing context (*setting the scene*) exacerbated by the views of the various professionals within that context (*tribal views*), often resulting in motivation to improve themselves or join other tribes (*continuing their own professional development*.
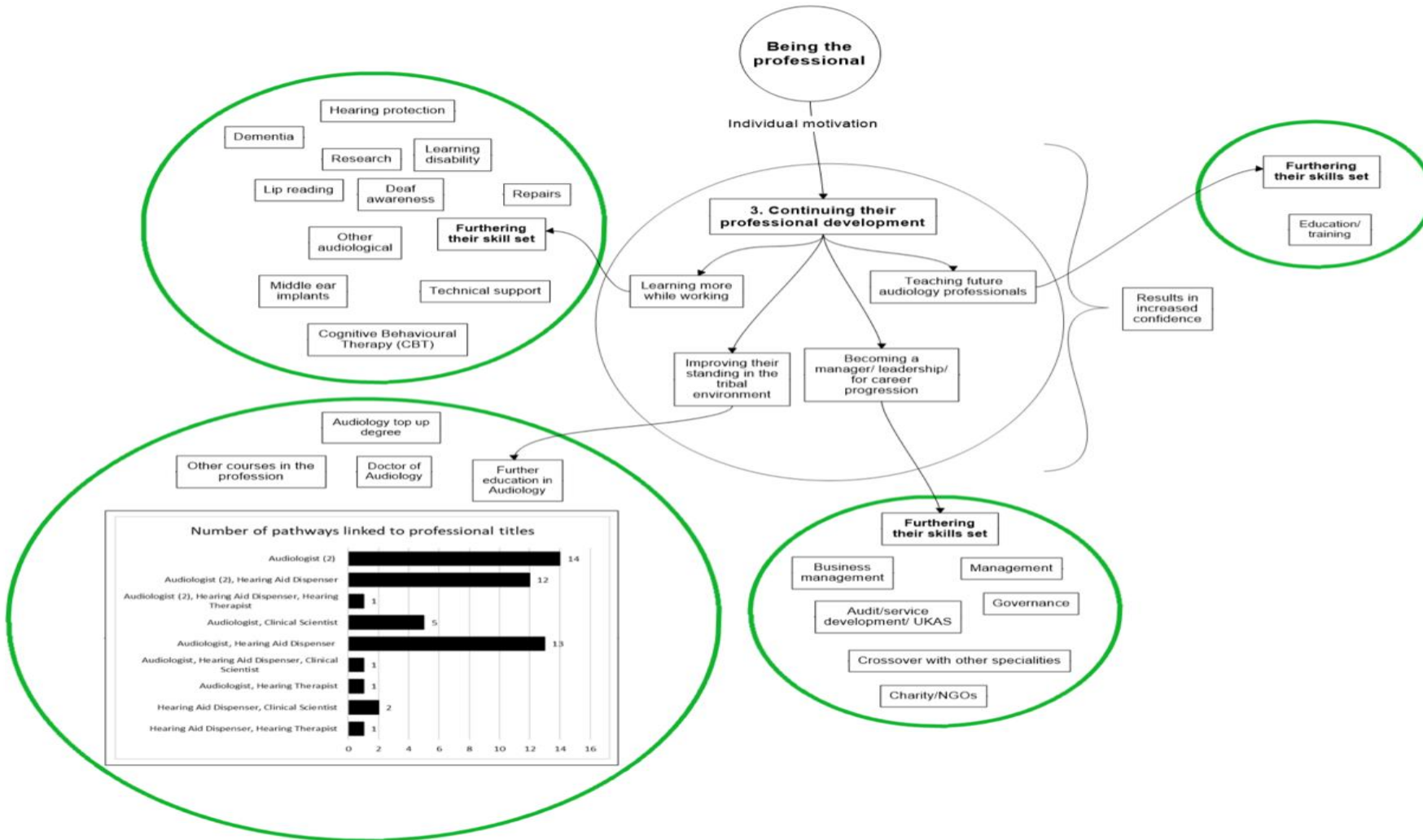
Figure 87 – Overview of Continuing their Professional Development across both cohorts

Appendix 16: Further codes linked to open questions

Question 7a – Other ways of learning about the profession

Code	Number of responses	Examples
Advertising of jobs or trainee posts	76	*"My mother saw an advert for a student Audiology Technician at the local hospital. Was looking for a job so thought I'd apply."* *"Saw an advert for student audiologist in newspaper. Looked up audiology in dictionary and thought 'I could do that'"* *"was interested in cardiology - saw an advert for different physiological measurement trainee ...in audiology"* *"Advert in local paper for student Audiology technician"*
University careers advice	44	*"Careers advice booklet at university- my friend and I started at "A" found audiology, thought it sounded interesting and have both trained as audiologists"* *"Mail shot advertising BSc Audiology course"* *"I found audiology through a lecturer of mine on my first degree (BSc sound engineering)"* *"Looking for information on a course in a different healthcare field I saw an advert for a new Audiology course on a university web page"*
Friends/Family who knew about audiology	16	*"Family friend studying Audiology"* *"Father was working in Audiology"* *"Friend introduced me to the profession - they were already an audiologist"* *"Family friend saw advert in local paper personally not looking for a job at the time but they thought it would suit me"* *"Suggested by a family member who is an allied health professional"*
Work experience	15	*"Through working on a Health and Social Care Sensory Support team"* *"Through working with adults with additional needs - developed interest in audiology specifically"* *"Tried different work experience following my BSc degree and was fascinated by audiology"* *"Worked for Action on hearing loss"* *"I worked as an age & disability advisor for a telecommunications company and helped HOH/deaf customer with using the phone"*
Speech Language Therapy link	7	*"I decided to sit in with a speech therapist to see if I wanted to study speech therapy after attending speech therapy as a child and came across Audiology and loved it. So did a degree in South Africa in Speech therapy and Audiology"* *"Applied for SALT course but didn't get the grades, Audiology was offered as an alternative"*

Code	Number of responses	Examples
		"Applied for speech & language BSc and was offered Audiology as an alternative" "Applied for Speech Therapy - as it was a dual course (including Audiology) I ended up carrying on to specialise in Audiology Only during my 3rd and 4th year of University"
Personal experience (not accessing services)	7	"A movie when I was very small, called Mandy, about a Deaf girl" 'I learned BSL and volunteered at a deaf charity that provided hearing aid repairs" "I met someone who was profoundly deaf whilst on holiday at 15 years old"
Retraining	5	"adult careers advice" "Adult retraining information in a careers library" "as part of multiple specialty training for the military"
School careers advisor	4	"School career office information" "School had hearing impaired unit" "Head of year suggested it because I was looking at physiotherapy" "School work experience"
Opticians link	4	"I already worked in optics and audiology was part of that business" "It was a service available through Specsavers where i worked as an optical assistant. Audiology training was offered as an option for career progression" "Through my work in an opticians and was offered the opportunity to pursue the qualification" Working in optics"
Placement experience	3	"Practical placement at residential school for children with multiple handicaps lead to audiology clinic visit and offer of a job" "Had a place on a supernumerary training scheme in Physiological Measurement, which included a placement in Audiology" "Started as a student medical physics and Physiological measurement technician"
Research/study	3	"Studying for my PhD I encountered a couple of people studying for masters and PhDs in audiology that I ended up collaborating with" "Whilst working as a research assistant at the University of Southampton" "Completed an undergraduate degree which involved acoustics and psychoacoustics, leading to a research project in tinnitus where I came across audiology as a profession"
No knowledge at all	1	"Random....did not know what I was applying for when first applied"

Question 8 – Why respondents considered Audiology

Code	Number of responses	Examples

Fell into it	79	*"I didn't really know much about audiology until a friend recommended it after I failed to pass the physical assessment part of the paramedic recruitment process."* *"I was considering radiology but saw audiology advertised, hadn't considered it until then."* *"I was 17 with no idea. Looked interesting so arranged an informal visit. Still around now."* *"came across a student position at the jobs fair and it seemed interesting"* *"I had left school and needed a job"* *"I was thinking about a career as a medical physicist - I thought audiology sounded better!"* *"I always say Audiology found me. I did not know what an Audiologist was until the job advert for the training post in the early 1990s. It provided an opportunity to provide vocational training."* *"Honest answer is that I was applying for anything I was qualified for at the time finding audiology was more accident than design."* *"I wanted to become a speech and language therapist and the degree I did covered both SLT and Audiology, and by the time the course ended, I decided I actually preferred Audiology."* *"Didn't know what it was when I applied!"*
Art vs Science	61	*"It had everything in it that I loved- electronics, sound, diagnostics, rehabilitation- and it involves helping people."* *"Great mixture of use of scientific skills and hands on caring for others."* *"It combined both science and patient care (in an area I was immensely interested in)"* *"I wanted a career in science and liked the patient care and continuity for patients in Audiology services"* *"Good combination of technology and working with people."* *"Had finished a physics degree and wanted something that linked in which was patient focused"* *"Caring role with technical side to it"* *"The mix of working with science and technology but people too"* *"To enable me to combine scientific knowledge along with patient care."*
Helping others	57	*"I wanted to work in a caring profession."* *"Patient facing role to help people improve their wellbeing and life through access to sound"* *"It was a profession where I felt you could truly make a difference to people life's particular from some of the most vulnerable groups in society"* *"I had been a student nurse but disliked the ward-based model of nursing at the time. I wanted to help people, and the process of assessment-intervention and rehabilitation was satisfying."* *"Looked interesting, dealing with clients of all types, making a significant improvement to their lives"* *"Caring Profession"* *"I much preferred Audiology to Speech Therapy. Audiology stood out - I Believed I could make more of a difference in peoples lives and improvement in their quality of life."*

		"Wanted to do a job helping people" *"Being an audiologist is a way to make a positive impact on someone's health and well-being whilst also having significant scientific and research components and basis."* *"I had always followed Biology since school and also the caring helping, life assisting aspect."*
Healthcare profession	54	*"I wanted to work in healthcare and I had experience in modules to do with sound waves etc. so thought I could use that knowledge"* *"I wanted to work in healthcare and it was a choice between audiology and optometry"* *"Wanted to work in health care, not necessarily nursing. Looked at lots of professions"* *"I wanted a health service career"* *"Wanted a health based career"* *"Wanted to work in something in healthcare science"* *"Wanted a profession that was in the health sector and specific. Audiology looked interesting"* *"As I wanted to do a profession that was health care related."* *"I wanted a career as an allied health professional"* *"I wanted to work in healthcare and when I researched audiology it seemed interesting and fun"* *"I wanted to work in the hospital"* *"I wanted to work in healthcare and work with people but didn't want to be a doctor, nurse or physiotherapist so was looking for other ideas."*
Personal experience	41	*"I considered audiology because I used to attend appointments with my brother who is hearing impaired. I loved Science at school and wanted to help people also- this seemed like the perfect combination"* *"I had hearing problems during my childhood which sparked my interest in the role and am a unilateral hearing aid wearer"* *"I took my grandmother to an audiology appointment and thought it seemed an interesting job"* *"I have SLT/Audiology background and have always been fascinated by communication disorders. I narrowed it down to Audiology by doing a further two years specialisation in Clinical Audiology. On the sideline, my father had otosclerosis and the interest had grown from there."* *"Am a Cochlear implantee"* *"I have a hearing loss so am aware of the career. I worked in research initially and then moved into clinic work."* *"Twin sister has had hearing loss since 5 years old. Also worked in optics providing similar service for eye care needs"* *"Personal interest, a son born profoundly deaf"* *"My brother has had multiple ear surgeries and is a hearing aid user."* *"Because I have a hearing loss myself, and have availed of audiology services in the past. This interested me in gaining experience, and being the person at the other side delivering the service."*

		"Had a family member who had profound loss and was intrigued."
		"Been involved within Audiology since childhood, wanted to use my experiences to help others"
Funding	38	*"I was offered a student place at the local hospital"*
		"Clinical scientist scheme appealed as it was in NHS, funded and offered postgraduate study."
		"Earning whilst training"
		"Was doing B.Sc. in physiology. Wanted post grad degree. Hospital funded M.Sc. degree."
		"Paid course that suited my skill set and interests"
		"Because it offered a career with training provided whilst working"
		"Because the training was funded!"
		"Interesting career while getting paid while training"
Career prospects	33	*"When I did my graduation in Audiology that time there were shortage of audiologist."*
		"I found it interesting and loved the different areas that could be specialised in"
		"Ticked all the boxes in terms of interest and variety"
		"I like the range of patients and the variety of work offered"
		"Wanted a degree that would give me a career at the end"
		"Felt it was interesting with good job opportunities too"
		"Use of my science degree, clear purpose, specialist in own field, career modification possible as the years progress"
		"Better career prospects"
		"It was interesting and there was opportunity to work with other professions"
		"at the time there seemed to be good job opportunities"
		"Prospects of a good career and it fitted my qualifications"
Personal circumstances	22	*"It was a profession that required a qualification and did not involve me leaving home for long periods of time."*
		"family debts, bursary, grants, not terrible looking."
		"Career at the time was going nowhere! Needed a new job that would pay to train me. Had my first child on the way, Seemed like a good idea at the time!"
		"Wanted to do something in healthcare but wasn't sure what exactly and it sounded interesting. Also liked it being fairly normal working hours"
		"Was interested in Medicine but wanted a good family life too so looked various health care related fields and opted for Audiology"
		"Related to medicine with no shift work."
		"the training centre was close to home"
		"Hours were better for child care"
		"wanted to have a job where I came home at night"

		"Was a single dad looking after my kids and at the time having just finished university as a mature student I needed local employment."
Awareness of hearing loss	19	"Learnt BSL and became more interested in helping people with a hearing loss" "I was incredibly interested in hearing as a whole, the physiology, Deaf culture, rehab. The course also sounded so interesting with all the different modules; physiology, psychology, counselling skills, paediatrics, balance etc." "Previously studied linguistics and was interested in speech and hearing sciences" "I was wondering how test results affected the choice of hearing aids, I loved unpacking them in the clinic. The first RICs started and they were colourful (I am very visual)" "Interest in deafness, suited my preferred subjects." "I worked with people with learning disabilities and communication needs, and no one was interested in their hearing abilities" "My mother worked as support teacher for hearing impaired children when I was growing up" "Became interested after studying aspects of audiology in BSc studies."
Career change	17	"I needed a career change" "Did not feel fulfilled in previous job. Looked into nursing but decided Audiology would be more suited to me." "First qualification was in agriculture which included animal husbandry and biology and wanted a profession indoors" "I was a nurse and wanted to change careers"
Work experience	8	"Interested in sign language at 6th form and did work experience at an audiology department, after the work experience I was very interested in becoming an audiologist" "I had been previously been part of the Audiology Admin team for 9 years, and through this post i gained some knowledge and experience from the professional bodies and found it really interesting." "started in cardio respiratory, then moved to electrodiagnostics for Audiology and Ophthalmology" "It was the last thing on the list! However a weeks work experience had me sold!" "My grandad had Tinnitus so I found out what Audiology was, did work experience when in 6th Form and really liked seeing the whole patient journey" "I was fortunate at that time,was allowed to sit and observe some work in local hospital, and I had a very positive experience and wanted to become an audiologist" "Pre-nursing course led to Work experience in many areas of the hospital, preferred Audiology"
Placement experience	6	"Worked in Audiology as part of Physiological Measurement Qualification. Enjoyed the Audiology placement most out of all the Healthcare Science options." "I started out on a course to become a Medical Physics and Physiological Technician of which audiology was one placement. I enjoyed being able to talk to people."

		"I wanted to work in a health care profession with adults and children and it offered the ability to manage patients of all ages autonomously. I was a clinical physiology trainee and identified in this speciality with the continuing patient care and rehabilitation element over other specialities"
Science	6	*"Matched my science qualifications"* *"It is a great mixture of different sciences."* *"Similar to audio engineering"* *"Thought it sounded interesting and had interest in sciences"* *"I enjoyed Physics and Biology at school"*
Research	3	*"The mixture of applying scientific information, clinical work, research and technical aspects the job had to offer"* *"I was interested in being a researcher looking at hearing loss and language/literacy"*
Careers advisor	1	*"Careers adviser felt I had the right skills and mindset"*
Salary	1	*"Money"*

Question 10 – Previous degree(s) and/or professions

Field	Number of responses	Examples
Management/manager	13	*"BSc management, NHS manager"* *"Estate Agent/Management Buyer - Business superstore"*
Finance/ Business/insurance	12	*"Financial services"* *"Worked in Finance for 22 years NHS. Worked in Sensory Support 2.5 years NHS. HNC in Business & Finance Accounting Technician Qualification. NHS Level 3 Health & Social Care"*
Administration	12	*"My previous job was as a legal administrator. My undergraduate degree was in physics."* *"Office administration and accounts, database clerk, customer service advisor"*
Biology	9	*"BSc (Hons) Biology. Most previous work was in retail/customer service."* *"BSc Biology & geography. Accountancy"*
Engineering	9	*"BSc. in Electronics. Post Grad Diploma in Radio Systems Engineering."* *"Civil engineering technician HNC Physiotherapy assistant, no formal qualifications"*
Nursing/AHP	9	*"Nursing"* *"I worked as an Auxiliary nurse in the neonatal unit. Then moved to the audiology admin team for flexible working after my first child."*
Education	8	*"BSc Environmental Science PGCE Secondary Science Education"*

		"Secondary school science teacher, and prior to that in the field of journal publishing. I have BSc in Applied Biology, and PGCE qualifications."
Optics	8	"Dispensing Optician." "Optician"
Technician	7	"BSc in physiology. Worked as a lab technician during school holidays and after graduating." "BSc Neuroscience, Several laboratory technician jobs, PhD Neuroimmunology"
Psychology	6	"BA child and Family Psycholog, BSc Community development" "Degree in Psychology in Education, worked as a domiciliary care worker"
Accountancy	6	"Accountant assistant" "BSc Biology & geography. Accountancy"
Health and Social care	7	"Worked in a residential home with adults with learning disabilities for a year - was employed by social services following placement for Duke of Edinburgh award" "Worked in the Civil Service before I had my family then worked as a School Science Technician while doing an Open University Degree in Health And Social Care"
Chemistry	4	"Associate lecturer in forensic chemistry" "Biochemistry"
Neuroscience/neurophysiology	4	"Initially trained in Neurophysiology while taking the Btec OND in MPPM" "Neurophysiologist"
Army/ Military	4	"Royal Air Force Engineer with the Red Arrows" "Combat Medic"
Sales	4	"Joiner - Advanced Craft City and Guilds. Bolton Metropolitan College. Conservatory erector London Area. Double Glazing Sales Rep. Part time bar staff." "Sales"
Events and hospitality services	3	"Event management Degree in biology" "I was a chef"
Nanny	3	"Managed a bar and worked overseas as a nanny" "MPhys in Mathematical Physics, studied towards but didn't complete a physics PhD. Taught undergraduate physics and was a science communicator. Worked as a nanny. Worked as a care assistant in a nursing home."
Charity	3	"BSc Environmental Science, Most of my career has been working in IT / IT management I also worked for a Deaf charity" "Grants Adviser for medical charity"
Acoustics	2	"Acoustics Lab Assistant, Research Physicist"

		"Degree in Engineering Acoustics and Vibration followed by work in that field then research into the effects of whole body vibration and then hand-arm vibration"
Electronics	2	"BSc. in Electronics, Post Grad Diploma in Radio Systems Engineering." "Electronics"
Environmental science	2	"BSc Environmental Science, Most of my career has been working in IT / IT management I also worked for a Deaf charity" "BSc Environmental Science, PGCE Secondary Science Education"
Physics	2	"MPhys in Mathematical Physics, studied towards but didn't complete a physics PhD. Taught undergraduate physics and was a science communicator. Worked as a nanny. Worked as a care assistant in a nursing home." "My previous job was as a legal administrator. My undergraduate degree was in physics."
Agriculture	2	"Degree in agriculture - 4 years working in agriculture. HNC - construction - Chartered Construction Engineer by examination, 20 years in construction." "NCA agriculture worked as civil servant for MAFF now DEFRA"
Speech therapy	2	"I began practising SLT and audiology simultaneously (not in the UK)" "Speech and language therapist"
Pharmacology	2	"Pharmacology" "Pharmacy Dispenser"
Research	2	"Research Assistant, Degree in Linguistic Science prior to Clinical Scientist training." "Research scientist"
Sport science	2	"Certificate of Higher Education in Sport and PE. Level 4. Store Manager of WHSmith. Lived abroad conducting volunteer work for 2 years before enrolling at DMU." "Engineering, Civil service, Sports instruction"
Craft/Trade	2	"Joiner - Advanced Craft City and Guilds. Bolton Metropolitan College. Conservatory erector London Area. Double Glazing Sales Rep. Part time bar staff." "Studies in Art, Art Portfolio and Graphic Design. Catering"
Counselling	2	"Retail, youth work, counselling, community education BSc Design and management. Own businesses in retail" "Social care and counselling"
Medicine	1	"ENT MB BCH BAO"
Veterinary science	1	"Veterinary Science"
Media/ Broadcasting	1	"BTec HND Media Studies. I was working freelance in the broadcast industry."
Anatomy	1	"Human anatomy degree and worked in retail"
Musician	1	"freelance musician"

Genetics	1	*"Genetics and research"*
English language course	1	*"I did a CELTA course and worked as a English language classroom assistant."*
Toxic waste disposal	1	*"Toxic waste disposal specialist"*

Question 11 – Why respondents considered changing to Audiology

Code	Number of respondents	Examples
Career prospects	23	*"Audiology represented a more interesting field with more career options"* *"Audiology was what I had settled on doing for my career long term. Previous employment were jobs"* *"Good prospects"* *"I wanted a career rather than a job"* *"Long term career"* *"There were not a lot of job prospects in this field."* *"To progress in my career"* *"wanted a career and to go to university"* *"More progressive career option, and the industry was entering a new exciting phase of technology"* *"I wanted to progress further and was given the opportunity to do the HTS alongside completing Masters in Audiology"* *"It was a profession that appeared to offer more career progression at that time"* *"Better career prospects and pay"* *"Career opportunities, professional qualification, rewarding job in terms of helping people and financial benefits."*
Career change	21	*"Getting fed up with my previous career in IT which was running out of challenges"* *"Agenda for Change review had downgraded my pay band, 2008 financial crash removed the funding that paid for the assistive listening/warning devices that I provided on long term loan to clients, saw an opportunity to retrain after nine years of searching in a hearing-related field, and I learned that the trainee associate audiologist route was available in my region"* *"Career change"* *"Limited and less opportunity to progress within the RAF"* *"Realising engineering was not for me when trying it out."* *"I needed to challenge my intellect"* *"Wasn't enjoying the banking industry at that point. Overworked, underpaid, no chance of promotion."*

		"Retraining opportunity when children were older and also after a relocation in the UK" "The business I had closed and the job I was moving on to fell through and the audiology business Was taking on my leases and I was invited to stay as receptionist" "Forced to by accident at work"
Personal circumstances	19	"Despite working in retail, being very young and excited to work and progress, working lots of hours and progressing to manage my own store, I realised that there was no future in it. Retail meant working most weekends which I did not want to do for the rest of my working life. Like I already said, it was interesting and had the potential for varied options for employment.' "A change in personal circumstances and a desire to work in a more interesting career." "Childcare" "sensible work life balance" "Wanted a full time role" "Good money, reasonable work life balance" "poverty"
Working with people	15	"I didn't want to work in a lab and wanted contact with patients" "I enjoyed the human aspects of my research and wanted to take that route more, rather than being stuck in an office most of the time" "I found that I was much more of a people person and although I enjoyed the lab work thought I better suited a public sector job" "I wanted to be more patient facing" "To work with people" "Wanted to work directly with people" "Wanted to work "with people" and needed more variety than sitting in and office all day"
Helping others	12	"Shadowed HAD prior to accepting sponsored FD and loved the impact he had on people's lives I was looking for a scientific role which involved helping people. I needed to feel like I was actually helping people to achieve job satisfaction." "I wanted a meaningful career" "I wanted to do something more rewarding" "Because I wanted to improve the lives of the people I was working with" "Helping others with an immediate need" "I wanted a career in a caring profession and was keen to train and learn something new."
Working in healthcare	10	"'Always wanted to work for the NHS at some point in my life" "Hi have always dreamt to work in healthcare." "I wanted to work in healthcare." "Wanted to work in healthcare"

		"Wanted to work with patients who were not hospitalised and following the whole patient journey"
By accident	9	*"I didn't - see above"* *"I didnt, not deliberately"* *"It was by chance. Got to know an audiologist and like dd the job"* *"Served a purpose at the time if I were to be honest."* *"Again, the opportunity arose opportunistically and serendipitously."* *"Opportunity presented itself."* *"New opportunity, boredom, interest."*
Personal experience	8	*"Wanted a career that combined working and studying. I was aware of Audiology as my grandmother wore hearing aids as did some of the residents in the care home I worked in."* *"Always wanted to help people with their hearing as I have had first hand experience of hearing loss growing up with my twin who has worn hearing aids since the age of 5 and know how much of a difference I can make to somebody's life by teaching them about hearing loss and the solutions that are available to them to assist them in living a much better quality of life"* *"As a patient of audiology myself for over 35 years, I wanted to experience what it was like in delivering the service."* *"I knew that I didnt like nursing enough to stay the course, but I wanted to help people. I had a hearing loss as a child and so was aware of the profession."*
Work-based learning	6	*"… A student post became available locally and I applied."* *"I wanted to do a vocational degree."* *"I wanted something more hands on and less theoretical. I like to see imediate results"* *"Career not going anywhere. Not that interested. Needed a job that would train and pay me and options were limited!"*
Salary	5	*"Better career prospects and pay"* *"Career opportunities, professional qualification, rewarding job in terms of helping people and financial benefits."* *'Money"* *"regular salary"* *"Good money, reasonable work life balance"*

Funding	4	"… Audiology then was a paid training in hospital with block release to study, this made it possible to retrain as a mature student." "Finance" "… The work life balance was attractive too, as was the renumeration available through the STP programme." "Career not going anywhere. Not that interested. Needed a job that would train and pay me and options were limited"!
Redundancy	4	"Made redundant" "Redundancy" "Was made redundant" "Made redundant and wanted to work in a caring profession."
Employment	3	"Full time post HE job" "NHS employment" "There were no jobs available locally in Neurophysiology, but a post was available in Audiology."
Move away from sales	2	"To move away from a sales environment" "I was becoming more and more 'sales' focussed and less able to use my skills to provide benefit to others."
Work experience	1	"A weeks work experience. I found it fascinating"

Question 12 – International audiology pathways

International courses	Number of responses	Examples
Australia	2	"Studied in Australia - Audiometry diploma" "Australia: masters of clinical audiology"
Brazil	1	"BSc in speech and language therapy/ audiology - UFMG Brazil"
South Africa	10	"B Communication Pathology in South Africa & then MSc in Advanced Audiology in UK." "B in speech pathology and audiology at university stellenbosch south africa" "BA (Speech and Hearing Therapy), Univ of the Witwatersrand" "BA Speech and Hearing Therapy MA Audiology. Research only. Both University of the Witwatersrand, Johannesburg South Africa. In 2003 and 2012" "Bachelor of Communication Pathology from the University of Pretoria, South Africa" "Bachelor of Communication Pathology. University of Pretoria. South Africa"

		"Bachelors Speech Language Pathology and Audiology followed by AuD."
		"BCommunication Pathology- with specialisation in Audiology (BSc) from the University of Pretoria, South Africa."
		"I qualified in South Africa - a 4 year degree: Bachelor of Communication Pathology with Specialization in Audiology at the University of Pretoria"
		"University of Pretoria South Africa B. communication Pathologist and audiologist"
Portugal	1	"Graduate diploma in Audiology at Coimbra Health School, Portugal."
India	3	"I completed by post graduation in India and got registered with RCCP after coming over. Masters in audiology and speech & language pathology, Manipal Academy of Higher Education, India." "Master of Audiology and Speech Language Pathology (Maharashtra University of Health Sciences, Nashik)" "BSc (ASR) Audiology and Speech rehabilitation from Mumbai University Ali Yavar Jung National Institute for the Hearing Handicaped Bandra (Mumbai)-India"
New Zealand	1	"Master of audiology in New Zealand"

Question 12 – Other UK audiology pathways

Other UK Audiology pathways	Number of responses	Examples
PG Diploma in Hearing therapy	2	"Postgraduate Diploma in Hearing Therapy at Bristol University" "I have a Diploma in Hearing Therapy from City Lit Centre for Deaf People, not Certificate."
BSA exams	5	"BSA part 1 and 2" "BSA Part 1 and 2 in 1979/80 + MBA Doctor of Audiology and PhD much later" "BSA part1 and 2 Grays inn road 1979"
Clinical physiology	8	"BSc (Hons) Clinical Physiology with BAAT part 1 and 2" "BSc Clinical Physiology and Diploma in Industrial studies. University of Ulster Jordanstown" "BSc (hons) Clinical Physiology, with Audiology, from Glasgow Caledonian" "BSc Hons Clinical Physiology (Audiology) from the University of Sunderland" "HND Medial Physics & Physiological Measurements - Peoples College, Nottingham, done as block release whilst also working within the department."
Audiology top up degree	2	"Foundation Degree in Audiology, then top-up degree in hearing science" "I'm just completing BSc Top up at ARU in Hearing Sciences."

Diploma	2	*"Diploma in Audiology"* *"HE Diploma in Audiology and BAAT parts 1 and 2. Equivalence to HNC MPPM but a different qualification"*
MSc Technical Audiology	2	*"MSc in Technical Audiology, University college London (part time whist working at a senior level in Audiology)"* *"MSc Technical Audiology whilst working within an Audiology Department. Taken at UCL. Appointed Clinical Scientist without the need for CAC qualification."*
Audiovestibular medicine	1	*"Audiovestibular Medicine training programme"*
Other	4	*"I only took the Btec NC in MPPM, not the HNC."* *"MSci Healthcare Science (audiology), which is the BSc course with clinical placement plus and extra year of master's level study"* *"NVQ level 3 and HNC in Medical Physics and Physiological Measurements"* *"BHSc Audiology (non stop) Diploma in Healthcare Studies (prior to degree) Both at the University of Leeds"*

Question 12 – Other courses

Other	Number of responses	Example quotes
Further education in Audiology	6	*"MSc (audiology with clinical placement) University of Southampton UK"* *"PG Dip with clinical certificate"* *"Completed undergraduate (selected above) in 2015 and Currently in second year of the MSc clinical science STP."* *"In process of MSC for audiological rehabilitation"* *"Msc Advanced Audiology"* *"My MSc was in Advanced Audiology, and I didn't need the CCC because I'd completed it as part of my BSc"*
Doctor of Audiology	4	*"AuD - Doctor of Audiology University of Florida"* *"PgCert Au.D (UK programme)"* *"Bachelors Speech Language Pathology and Audiology followed by AuD."* *"BSA Part 1 and 2 in 1979/80 + MBA Doctor of Audiology and PhD much later"*
Other	5	*"Also have BSc, MSc & Phd in Psychology"* *"I also have an MSc in Social Care Leadership which seemed a better fit for my role as manager"* *"MSc in advanced practice"*

		"Also BSc in Health science" "Ph.d"

Question 13 – Summary of respondents' reasons for selecting a specific course

Code	Number of responses	Example quotes
Only option	87	"That was the standard training pathway at the time" "BAAT is the pathway available at the time in Northern Ireland" "I didn't really know of any other options." "That was the only pathway available to me at the time." "The only available opportunity." "In 1988, there was little other choice and access to degree was difficult." "Available at the time. Requested to complete BSC locally but HoD declined" "When I started in 1989 that was the pathway as a student Audiologist" "It was the training pathway at the time." "Only one available at the time." "These were the qualification/training requirements at the time I was training" "It was the route into audiology available at the time" "There was no Audiology degree at that time." "It was the only choice" "It was the only one available at the time in the private sector" "It was the only one I was aware of to enter the private market" "I'm that old that was the only option" "Only necessary qualification available at the time (1999)" "This was the career progression that was available then! Audiology was very much a Cinderella service in those days!"
Employment	41	"I was recruited as a Student Audiologist by an acute NHS Trust with that pathway in mind." "It was part of the job role" "The Btec NC was part of the supernumerary scheme that I joined at 18. When I had my first post in Audiology, I was required to complete BAAT parts 1 and 2." "B-Tec MPPM-opportunity to train in 4 areas BAAT 1 & 2-more employment opportunities in audiology at the time "It was the one associated with my training role available at the time" "Didn't choose this route-followed plan offered by my department when I took the job"

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		"I wanted to work and study" "I applied for a dept student audiology post that was advertised and this was the qualification route involved" "It was the course supported by my regional training scheme" "Decision was made by employer" "Training provided by company who recruited me" "Only training available otherwise in-service training" "It was offered by my employer" "This was the training provided for the post" "It was integral to my N.H.S. trainee associate audiologist job i.e it was the only one practically available to me at 57!" "As part of the job role as an Associate Audiologist this was part of the requirement."
Preferred	40	"I wanted to have a degree qualification and experience, as well as to become a qualified audiologist." "Fitted with my location and times I was able to study" "Due to the combination of theoretical and practical training" "I didn't want to work in clinical audiology but to understand the science" "Only one which seemed apt" "I think The Scientist scheme remains the best way of developing really quality staff." "Felt with an MSc there could be more opportunities" 'I am originally from Canada and wanted to study and work abroad. There the only pathway available is a MSc, there are no BSc, Postgraduate diplomas, or clinical scientist degrees offered. Therefore I had to pursue the MSc" "Could be fitted in around my family commitments" "My life style" "I wanted a traditional university experience" "I liked mix of study and then training on job which then culminated in a good career" "I selected BSc Audiology as the course was provided with placements at NHS hospitals- this to me meant better opportunities to develop work experience and clinical competencies." "In1994 it was a choice between a masters degree or in house training and BAAT exams. I wanted to be patient facing as soon as possible" "Suited my age and qualifications at the time" "Convenience. It what was on offer." "Opportunity to work whilst learning"
Awareness	39	"At the time I thought the only pathway to take to become an audiologist was through the university degree"

		"I was looking to do a degree and it was the most relevant training route into Audiology at the time." *"I decided to take this route after doing my A levels. This seemed like the most direct route into the profession"* *"Wanted something to do straight from school and at university"* *"It was the only route I was aware of at the time"* *"BSc Hons Audiology seemed the only option for me to become an audiologist at the time I was entering the profession."* *"Degree was only real option available to me at the time"* *"Only option for entry into Audiology from school."* *"This was the assigned pathway to move further into Audiology"* *"The only pathway I knew about at the time"* *"Natural choice following A-Levels"* *"Careers advisor recommended this was the best way in as I was already doing my A Levels"* *"At time of training only option open to me to be an Audiologist in the NHS"* *"I wanted to go to university to study and an audiology degree had just started at my university of choice"* *"It was the main pathway into the profession at the time. There was also a foundation degree that I later found out about, however I feel I gained a broader understanding and better on the job training with a year in an NHS placement with a team of audiologists"* *"It was the only available option straight from secondary school"*
Career change	15	*"I didn't know about audiology as a profession until I was finishing my degree course in a biomedical science and I hadn't settled on a career plan until then"* *"I was not successful at getting an STP place and my local university offered the MSc. I had a BSc so was eligible to join the MSc directly. This was the quickest way for me to retrain and I could not have afforded to do the BSc.* *"It fitted with the fact that I had already undertaken a BSc (not in audiology, as I had not known about it until afterwards)."* *"I had a degree in Chemical Physics but didn't want to work in research so was eligible for the MSc"* *"Unsure of what to do after first degree, and careers office suggested looking into Audiology or being a Dietitian."* *"Postgraduate route into the profession"* *"I liked the idea of the conversion masters. I was originally enrolled on the pg dip without placement as i was a late applicant and took the place of someone who had dropped out. After I started a place became available to do the full MSc with the clinical placement included"* *"I already had a science degree when I was considering what to do next."*
Funded	17	*"Paid me to train. Career path seemed promising at the time"*

		"I could not afford to retrain from my previous field without being paid. The STP offered a well paid, fast route to registration with what seemed a well structured pathway. The end point of being a clinical scientist was also very attractive as this was a level that I felt I would be very satisfied to reach." *"Because it was funded by bursary and involved postgraduate study meaning my BSc was not a waste of time"* *"Funded to do MSc"* *"NHS bursary available for BSc"* *"Course was free. Had correct qualifications to start the degree. Didn't realise there were other options!"* *"It was fully funded including MSc fees"* *"Funding available for clinical scientist training best reflected my interest."* *"Funded training"* *"Tuition fees paid for."* *"Paid training scheme available to me. I didn't know about the MSc and CCC"*
International	13	*"That was the only pathway in South Africa to become an Audiologist."* *"Only available pathway. AuD required to practice in USA."* *"In Australia at that time, you could only do a masters to be able to work as an audiologist"* *"I lived in South Africa and i wanted dual qualification"* *The degree programme looked very comprehensive and well put together. It also offered a dual degree option to do Speech Language Pathology"* *"Wanted to study in cape town which is where uni was"* *"Only Audiology pathway in Portugal apart from MSc (which can only be accessed with a graduate diploma)."* *"Only programme offered in nz"* *"I was living in Australia at the time and this was one of the recognised courses in order to become a Qualified Professional as required by the Office of Hearing Services in order to obtain public funding for hearing services (similar to NHS)"*
Faster route	12	*"As I had already completed a BSc, so it was a faster route into audiology."* *"Already had BSc did not want to start a new degree from scratch, interested in carrying out some research as part of a MSc"* *"already had BSc, wanted fast track into the profession, unable to obtain a position on the CAC course"* *"Had completed BSc, so MSc easiest route; CAC completed on first post."* *"1 year course and recommendation from university"* *"I had a suitable undergraduate degree and it was the best way in to the profession at the time"* *"So that my previous degree would allow a condensed form of study and to gain a higher level qualification"*

		"This was recommended to me as I was just completing a BSc"
Degree	5	*"Wanted to complete a degree"* *"I wanted to go to university"* *"I didn't have a degree and wanted to get one in order to qualify. I wanted to go to university as an undergraduate."*
Awareness, Specialist	8	*"Allowed me to have advanced knowledge and clinical practice. I found routine audiology not stimulating enough as such I did the STP"* *"BSc entry route into audiology in 2011 MSc to excel in my career through a workbased training program specialising in all areas of audiology"* *"I studied the BSc as the course appealed to me, especially the psychology as well as the placement. I continued to the STP for the paediatric component mainly, but also the overview of audiology at a higher level."* *"Good starting ground and then wanted to expand knowledge"* *"Bsc: that was most suitable pathway at the time. Msc: to increase existing knowledge"*
Only option, Degree	8	*"No undergraduate degree in Audiology available when I did my BA Hons so selected one that included some audiology. Natural progression onto the MSc and CAC and wanted to maintain the graduate route"* *"Initially completed BTec as required qualification in 1987. Did degree part time later in 1999"* *"BAAT and HNC MPPM was standard training. MSc was funded personally to consolidate training into a formal qualification"* *"Student requirement at the time was btec and baat. When the new entry to audiology switched to degree as a department we were all offered the opportunity to complete."*
Only option, Sector change	7	*"BAAT Parts I and II offered by employer. HAC to dispense hearing aids."* *"It was the only training option at the time of initial training. Took the aptitude test to register with HCPC and work in the private sector"* *"It was the only option available at the time. I chose the HAAT later to give more options on work, but have actually stayed within the NHS."* *"No option at that time Aptitude tests many years later when aqp was a concern to nhs audiology"* *"It was all there was within the NHS I did the HAC exams later when I went into private practise"* *"It was the route available to me to qualify. I then wanted to transfer from the NHS to private sector so took their Hearing Aid council exams/Aptitude test"*
Only option, Specialist	6	*"To be able to undertake specialist work after training to be a routine adult rehab audiologist"* *"BAAT only option to qualify. PG qualification to refresh theoretical knowledge and to keep up to date to support junior staff and students"*

		"that was the only pathway available at that time. I chose to do my MSc when the audiology degree came into being as I realised I would need a higher level of qualification if ever I needed to change roles/departments and that my experience wouldn't be enough"
Employment, Degree	6	*"1) entry qualification funded by department 2) transition to graduate audiology"* *"FdSc I chose as an employer offered to fund the course for me. BSc Top up Hearing Sciences, I chose because DMU were not flexible enough in letting me return for the 3rd year. I also plan to do MSc in September this year."*
Employment, Career progression	4	*"It evolved - BAAT 1&2 and BTEC & HTEC we're all hospital funded and expected. The MSc was also funded (and a years study leave) and this was part of service expansion pre newborn screen implementation"* *"First training came with job offer in my home town. Second training to become a clinical scientist and further my career"* *"BAAT was available in my local hospital. I wanted to widen my knowledge and skills so did the MSc & CAC."* *"BAAT and in house training was offered as part of the trainee post MSc in Hearing therapy due to career choice in adult rehabilitation"*
Preferred, Sector change	3	*"I was able to do the masters and then had a clinical training post following this. I then did my HAD training so I could do some private work alongside my NHS work"* *"To be able to work in the NHS and the private sector"* *"Hearing Therapy as previously explained, RHAD as a career development and to provide more options to my patients"*
Funded, Only option	2	*"Funded position. Only logical route to becoming a clinical scientist in Audiology at the time of my training."* *"It was the only one available at the time and was fully funded"*
Awareness, Career progression	2	*"I didn't plan to take the above route! I had planned to go to university but after beginning a course and dropping out I was searching for something that fit me better, and so I applied for the BSc audiology. I graduated in 2010 and after a few years working I felt like I didn't know as much as I wanted to, and felt that further study would be beneficial for me as a person, and would improve my chances of getting a higher band job, or would make me more competitive against peers who had done another degree and then the MSc Audiology. I did an MSc Advanced Audiology part time along side working full time."* *"The undergraduate degree was the main route to become a qualified audiologist, the sandwich style course delivery suited my learning style. I wanted to continue with career and academic profession following starting my career so I selected an MSc programme with full distance learning delivery."*

International, Sector change	2	*"I work for the NHS and I took the Aptitude test 3 years back just to have an additional qualification."* *"Bachelor degree to enter profession. Aptitude test to practice privately in UK."*
Preferred, Faster route	2	*"Most convenient option at time, quickest route to professional qualification allowing practice"* *"Already had a degree so only 2 available post graduate degree routes open at the time. Chose to complete CAC which was not compulsory at the time"*
Sector change, Specialist	1	*"Hearing Therapy as previously explained, RHAD as a career development and to provide more options to my patients"*
Career change, Funded	1	*"Allowed entry without previous Audiology experience, and was at post-graduate level. Fully funded and salaried training as I already had the financial commitments that come with being an adult at the stage of life I was."*
Faster route, Career change	1	*"It was the most reliable and quickest way to change careers. It gave me the experience to do some research but also complete some clinical practice hours."*
Faster route, Specialist	1	*"My undergraduate degree allowed me to progress to postgraduate study in Audiology. Once qualified I chose to undertake further training in the form of the STP."*
Funded, Career change	1	*"It was being funded in Scotland and the Aptitude Test was a requirement of me becoming a Programme Leader for education purposes."*
Funded, Career progression	1	*"The degree was free at the time, I liked it had a year in work so I would get some experience and earn some money. The STP I did to jump up the banding quicker, it was also free and I got paid to learn."*
Funded, Preferred	1	*"BSc- Funding MSc- work based part time study"*
International, Career progression	2	*"I was living in South Africa and the degree was a joint speech therapy and Audiology degree. I lived in England 2005 to 2009 then in South Africa 2009 to 2019. I waited to do my masters as I wanted to have clinical experience which I thought would help with my masters study."* *"B Communication Pathology: because I originally was interested in speech therapy MSc Advanced Audiology: to allow more career options internationally"*
Employment, Career progression, Sector change	1	*"Was employed initially as Audiology Technician while enrolled on M.Sc. in Audiology. During time as technician completed British Society of Audiology technicians theory and practical exams (equivalent to BAAT). When M.Sc. completed was upgraded to Audiological Scientist. Wished to be involved in private practice. When NHS audiologists were allowed, sat HAC exams."*

Question 15 – Responses related to the NHS and combinations with other contexts

Work context	Number of responses	Code	Examples
NHS	44	NHS values	*"I have always worked for the NHS and plan to continue to do so. I was trained by NHS staff and believe strongly in the service we provide."* *"At the time I qualified audiologists only worked within the NHS but I would choose the same today."* *"Bloody love the NHS and all that it stands for!"* *"I had been caring for 2 elderly parents with complex needs for several years and bringing up family so after parents passed wanted to return to work in a meaningful role such as one which had made a difference to my parents."*
	43	Not selling	*"I wanted to work in NHS, hospital based. I would never want to sell things."* *"I am not a salesperson. My bottom line is not money, driven by commission."* *"Providing quality healthcare without having to sell products was a big motivation."*
	6	Job security and not selling	*"I believe a lot in public healthcare free at point of use. I do not believe in mixing profit and health. Plus the NHS provides many benefits and unique security of employment."* *"Job security and offering a service which was free at the point of delivery"*
	7	Variety and not selling	*"I like diagnostics and also like working in hospitals. Large variety of patients, no pressure on selling aids"*
	1	Variety, job security and not selling	*"Variety of work, stable job, not having to sell hearing aids and services."*
	1	Variety, job security, not selling and career progression	*"I wanted to work in paediatrics And have a secure job with access to training. Did not like sales aspect of private work."*
	1	Not selling, career progression and in-service training	*"South Africa- to complete my Community Service and gain valuable exposure in a rural setting, challenging myself. NHS- very fulfilling, good work-life balance. Focus is on patient care rather than selling equipment/hearing aids. Excellent career progression opportunities- Currently on the STP- via the Inservice route"*
	2	Personal	*"Mid life crisis"* *"Suitable job following graduation from university that was close to home"*

NHS and Manufacturer	2	**Career progression**	*"I always wanted to work in the NHS so i took that step initially. I was then unable to find NHS work or progress without moving to different parts of the country every couple of years so I look for other opportunities which allowed me to settle."* *"Slow progression in NHS"*
NHS and HEI	1	**Teaching and research**	*"To develop extended skills in teaching and research"*
	3	**Teaching**	*"I enjoy teaching people. NHS is all I know!"* *"wanted to teach"* *"Higher education - asked to lecture on Degree course"*
	1	**Student supervision**	*"Always worked for NHS Involved with Supervision for Students, so trained to become Clinical Placement Assessor"*
	2	**Personal opportunities**	*"seemed like a good idea at the time"* *"Working environment "*
	1	**Clinical, teaching and research**	*"Started in NHS. Whilst doing MSc I became interested in research so did PhD and went on to teach at a HEI (10 years out of clinic in total). Now back in NHS clinic as missed patient contact and wanted a more frontline role."*
	1	**Clinical and teaching**	*"I worked in the NHS as part of the STP. I always enjoyed teaching which led me to the role in education."*
	2	**Clinical and research**	*"wanted to see patients and make a difference but also really enjoyed research and so wanted to be able to do this more"* *"I love working in the NHS. I also wanted to do some research so I also work in an HEI."*
NHS and civil service	1	**Variety**	*"Interesting roles"*
NHS and voluntary	1	**Building services in Africa**	*"I enjoy working for the NHS and loved the challenge of building services when volunteering in Africa"*
NHS and social enterprise	1	**Change of service delivery model**	*"I work for an organisation that transitioned to employment within the NHS to employment to a company that provides a service to the NHS."*
NHS and semi-retired	1	**Retired NHS and private ENT**	*"Retired on ill health from NHS, but continued Private ENT outpatient support services."*

Question 15 – Responses related to the Private sector and combinations with other contexts

Work context	Number of responses	Code	Examples
Private	6	**General responses**	*"Passion for helping others"* *"Leadership opportunities"* *"Main one available at the time"* *"Altruistic, wanted a profession where I was helping people improve their quality of life"* *"The sector found me"*
	1	**Time and internal transfers**	*"Ability to transfer within a major Hearingcare company with partner moving jobs around the country. Also like that I am able to spend more time with patients and able to give them more choice when it comes to choosing a solution for their hearing loss"*
	1	**Technology and salary**	*"Available technology, salary package and benefits"*
	1	**Technology**	*"Best choice of technology & ability to offer the best level of care"*
	1	**Salary, job security and personal**	*"Pay. Benefits. Good decision for family."*
	3	**Salary**	*"Money"* *"Opportunity and financial reward"* *"Finance"*
	1	**Job availability**	*"Convenience of the jobs available."*
	1	**Funded training and job security**	*"This sector was responsible for financing my course and is a secure source of employment."*
	4	**Funded training**	*"Employer paid for training"* *"Criteria as part of my sponsorship"* *"Current employer who funded the course"* *"Private sector were happy to fund the course."*
	4	**Family/own business**	*"Eventually I knew I wanted to start my own business and this appeared to be the most logical route."* *"Flexibility"* *"No possibility of career advancement in my department and therefore decided to join family business."* *"Family business"*
	1	**Autonomy**	*"The autonomy"*
Private and Professional Body	1	**Personal development and own business**	*"I wanted to progress in a career and was offered opportunity in Audiology business"*

Private and Ministry of Defence	1	Personal development	"Personal development"
Private and manufacturer	2	Own business	"Started in manufacturing and then started my own practice in Australia, Upon my return the UK i once again started a private practice. I have always been self employed, and wished to continue to be so"
Private and HEI	1	Teaching and research	"University placement provider offered me a job upon graduation. Had no issues with private sector as they are an ethical and dedicated company. Moved to higher education to complete a PhD and gain teaching experience."

Question 15 – Responses related to the combination between NHS and the Private sector

Work context	Number of responses	Code	Examples
NHS and Private	5	Supplement income/ salary	"I was employed by NHS, then started doing some private wax removal due to a huge need locally. This is to supplement my income and provide a service." "Money!" "Money" "NHS to start my career Private work on top of NHS to earn extra money" "I left the NHS out of frustration after 18 years but my heart never left it. Two years later I was back part-time combining it with private work."
	3	Variety and salary	"NHS to work with children and Private to "top up" income" "NHS because I wanted to help people from all backgrounds and variety of age groups. Private initially for finance reasons. I now only work for NHS." "Finance, experience, prospects"
	5	Variety	"Wanted to specialise in paediatrics and NHS had good opportunities for that" "NHS - to consolidate my knowledge and clinical skills post degree. After 6 years I moved to the private sector to experience a different environment." "NHS in paediatrics. Independent practice to improve hearing aid fitting to improve outcomes and access to therapy" "When I left university there were not many jobs in the NHS in the area I wanted to stay in (Northwest). So I found a private company to gain some experience.I am glad I had the opportunity to work in both for more experience." "I wanted a broad experience"

		2	**Variety and personal development**	*"Variation. I left the NHS to work privately as the trust I worked for had no opportunities to further myself and were very underfunded"* *"Variety, and career growth"*
		3	**Funded training**	*"Training available"* *"Sponsored by health service"* *"YTS training scheme as a student "*
		5	**Personal**	*"Available in location suitable to me"* *"Pay. Locality"* *"relocation"* *"I wanted to work for the NHS and help people improve their lives"* *"Incompletion of the full (Hons) program left me unsure of what I was qualified to do. I then looked into the options listed in the private sector. I returned to the NHS as I held many of the same core values and principles that underpin the NHS."*
		7	**Job availability**	*"Just job opportunity"* *"NHS was the main employment for Audiologists when I started, very few private dispensers, certainly not in large optical franchises."* *"Always wanted to work nhs. When graduating university no band 5 jobs were being advertised locally"* *"Only ones offering jobs"* *"Availability of work"* *"I was offered a student post at the local hospital and secondly I was offered another job in the private sector"* *"Was already employed with the company but on the optics side."*
		3	**Mix of services**	*"I wanted to do a combination and be able to see what technology is available in each. I am a specialist in balance and there was little of this work offered privately so I also do this."* *"I locumed straight out of uni until I could get a permanent job, which meant I did a mix of private and NHS"* *"Private- wanted to see what the 'private' world offered for patients. Also, at the time of applying, there were not many NHS job posts. NHS- missed being 'part' of a larger multi-disciplinary team."*
		3	**ENT support not selling**	*"NHS - not interested in 'selling' Desire to help people. Some medico legal work in private hospital"* *"Offered work by ENT consultant"* *"Wanted to work in the NHS and opportunity arose to do some private work for the Consultants (very part-time), so did both concurrently"*

	1	ENT and own business	"Employed by NHS from student. Many years later worked with ent consultants in the private sector testing as well as NHS as I was part time and my children were older. Then in addition I started on my own selling hearing aids and microsuction."
	1	Any qualified provider	"I have always wanted to work for the NHS. My current role is in a private sector that has been commissioned to provide NHS services"

Question 15 – Responses related to direction of movement between the NHS and the private sector

Direction of movement			
Work context	Number of responses	Code	Examples
Private to NHS	2	**Variety of the NHS**	"I initially took on a role in the private sector but this was not for me. I wanted to try private to give patients a wider access to technology. I then decided to go to the NHS as I really enjoy the opportunities available beyond hearing care. I am really interested in balance so I am hoping to learn more about this area." "Firstly it was private sector as a dispenser, I just wanted to get a job quickly and there were lots of opportunities with dispensers. After 10 months it wasn't for me, I was more interested in diagnostic and complex cases, and specialising in CI or Paediatrics." "Only worked privately for a few months before returning to the NHS as it suits my audiological practice. I much prefer the rehabilitation aspects to the job, and felt privately this was not utilised enough."
	3	**Not selling**	"Initial start in private sector but wanted to move away from sales based job." "I started my own private practice after graduating, but I always wanted to live abroad and work for the NHS as opposed to private sector." "Originally when I qualified I wanted to go privately as it paid well and it meant I could fit a wide range of hearing losses and provide better service. However I didn't like

			having to sell and since moving back into the NHS I much prefer it"
	1	**Disillusioned by private sector**	*"NHS then private then back to NHS as disillusioned in private sector"*
NHS to Private	1	**Disillusioned by the NHS**	*"NHS: Free at point of delivery ethos Private: Disillusionment at standard and quality of service provided in NHS. NHS restrictions of scope of practice/division of scope of practice. Income more fitting to my post graduate qualification."*
	3	**Offer more to patients**	*"Placement experience led to a desire to working in nhs. Experience working in nhs led me to want to offer more to patients privately"* *"immediately worked in the NHS however when funding became more and more restricted, no longer funding further training easily and limitations for patient care, an opportunity in an independent private audiology centre opened up, willing to provide and promote further training (without glass ceiling or red tape) and allows longer time with patients to better meet their needs with a wider range of products available."* *"I started off in the NHS but always worried how my clients were getting on with their hearing and could never follow them up with rehabilitative appts myself. They would see any audiologist available in the dept. So I decided to do private work were I can maintain the continuity of care of my patients which I feel is important in terms of how they progress with their aids and managing their hearing."*
	2	**Private salary and personal**	*"NHS initially as a standard way into the job. Privately now as it has more flexibility for family life, better salary and more flexibility in work undertaken."* *"Nhs- It was because my relatives had been using the service. Private to pay the mortgage off. I left NHS because of the bullying. It was scary but absolutely the right decision"*

Question 17 Summary of areas not included in question 16

Code	Number of respondents	Examples
Education/ training	22	""Clinical Educator" "Education" "Education and training. Complex needs - intellectual disabilities and dementia assessment and rehabilitation." "Mentoring (with qualification)" "Supervision of foundation degree students" "Teaching, supervision and professional activities" "Training and assessment of students" "Training of students" "Training staff and supervising students" "Training/supporting trainees. Carrying out/supporting research. NGO's." "Management of ALDs in educational setting."
Learning disability	8	"Assessment of adults with additional needs eg learning disabilities and dementia Adults with non-organic hearing loss" "Audit. Service development. Research. Learning disabilities." "Complex Adults and Vulnerable Adults" "Learning Disability clinics Complex review patients"
Research	7	"Audit. Service development. Research. Learning disabilities." "Management of research portfolio" "Research and development (clinical academic role) Quality assurance Clinical trainer" "Training/supporting trainees. Carrying out/supporting research. NGO's."
Management	5	"Management of NHSP rather than management of an audiology service" "Management of staff" "Clinical lead for audiology in my health board/deputising for head of service"
Repairs	2	"Hearing aid repairs" "Hearing aid repairs, follow-ups"
Business management	4	"Business owner" "Development of my own commercial business" "Training, marketing, financial managing of a business" "Social media management and advertising."
Hearing protection	4	"Advising regarding specialist hearing protection."

		"Hearing protection hearing conservation acoustics" "Industrial and environmental audiology (noise measurement, hearing conservation, noise nuisance)"
Dementia	2	"Assessment of adults with additional needs eg learning disabilities and dementia Adults with non organic hearing loss" "Education and training. Complex needs - intellectual disabilities and dementia assessment and rehabilitation."
Cognitive Behavioural Therapy (CBT)	3	"CBT listed in nice tinnitus" "Cognitive behavioural therapy- qualified CBT therapist (post grad diploma)" "Cognitive Behavioural therapy"
Lip reading	2	"ATA Lipreading teacher" "lipreading/speech reading teacher - ran voluntary visitor service"
Deaf awareness	1	"Deaf Role Model Run courses on Deaf Awareness Training to help other professionals on communicating to others with a hearing loss."
Audit/service development/ UKAS	4	"Audit. Service development. Research. Learning disabilities." "Service development Research"
Governance	2	"Obtaining and maintaining UKAS accreditation" "Governance Training & Development"
Middle ear implants	2	"Middle ear implant assessment and rehabilitation, bone anchored hearing aid rehabilitation." "Programming cochlear implant complex programming, middle ear implants programming and BAHA ."
Charity/NGOs	3	"Sponsoring a deaf school in Kenya for 18 years with annual visits to supply hearing aids and equipment for audiological assessments and set up a mould making facility for self sufficiency" "I was part of the original pilot Institute of Child Health Neonatal OAE Screening programme when I worked for Sense, the national Deafblind and Rubella Assoc."
Crossover with other specialities	5	"Audiology Led ENT Clinic" "Calorics, VNG, ENG, VEMP Neurophysiology, incl. EEG and Nerve Conduction Studies, etc Cardiorespiratory investigations" "I have cross trained into a clinical measurement speciality using my previous neuroscience background - intraoperative monitoring for scoliosis surgery." "Senior surgical on call manager." "Surgical CI training Aural Rehabilitation and Habilitation Family centered Care in audiology Voice therapy Dysphagia communication and language disorders Child neurological

		development IEP , plans, transition planning Occupational assessment Audiology MedicoLegal Audiology HCPC- Board member"
Other audiological	3	*"Misophonia management"*
		"Paediatric Direct Access clinics with age/ability appropriate testing e.g. VRA"
		"Ida patient centred care"
Technical support	1	*"IT coordinator-we cannot forget how much we depend on IT"*

Question 21 – Reasons provided in '*Other'* category not listed in the question

Code	Number of respondents	Example quotes
Applications in process	3	*"Application is pending"* *"In the process of applying for RCCP."* *"Awaiting outcome of recent ACS interview. It has always been my intention to register but was challenging to do after the HTS."*
Studying on an audiological course	4	*"I am still in training completing the first year of the diploma in hearing aid audiology."* *"still currently in training programme"* *"As I started the STP, my practice is covered by the institutions I'm under. Therefore, I contacted RCCP to cancel my membership and will apply to HCPC when I have completed the STP."* *"Still studying final term"*
Application process	3	*"Requires two members to write a reference"* *"It is not required but is desired by employer. I have started the process a few times but as my qualification requires me to apply via a long form and provide a lot of evidence, I have struggled to motivate myself to complete it."* *"after attempting to register on three separate occasions (& having to pay on each occasion) without being successful I gave up!"*