UNIVERSITY OF KWAZULU-NATAL ™

INYUVESI YAKWAZULU-NATALI

THE ANTICIPATED IMPLICATIONS OF NATIONAL HEALTH INSURANCE IN AUDIOLOGICAL PRACTICES IN KWAZULU NATAL

A REPORT ON A RESEARCH PROJECT PRESENTED TO THE DISCIPLINE OF AUDIOLOGY SCHOOL OF HEALTH SCIENCES

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BY

IVIWE KETSHANA (220029805)

XOLISANI MYAYA (219066744)

SIHLE SHABALALA (220007838)

SUPERVISOR: MUSAWENKOSI MAKHOBA

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DECLARATION

We, the fourth year Audiology students at the University of KwaZulu Natal declare that this research report was compiled by us as the principal researchers, which is submitted to the University of KwaZulu Natal for the undergraduate honors degree (Audiology), entitled:

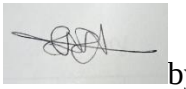
THE ANTICIPATED IMPLICATIONS OF NATIONAL HEALTH INSURANCE IN AUDIOLOGICAL PRACTICES IN KWAZULU NATAL

Represents our own work in conception and execution. The descriptive study for this project was under the guidance and supervision of Mr. Musawenkosi Makhoba.

The study is our work and has not been submitted in any form to another tertiary institution or university. Where it was necessary to use or refer to other people's work, we duly acknowledged the sources through referencing according to the APA style.

Signed by_ KETSHANA IVIWE (220029805), date: 2023-10-30.

Signed by_XOLISANI MYAYA (219066744), date: 2023-10-30.

Signed  by_ SIHLE SHABALALA (220007838), date: 2023-10-30.

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ABSTRACT

Background Information: South Africa is a developing country with limited resources and a paucity of health practitioners, resulting in limited access to audiological services in both public and private healthcare facilities. The NHI is intended to alleviate some of the challenges, by bridging the gap between the private and public healthcare sectors. Despite DOH presenting limited resources and professionals in South Africa, a greater percentage of the population (84%) rely on the public sector for its health requirements, which impact negatively service delivery. Little is known about the anticipated impact of the NHI in alleviating some of the challenges of sub-optimal service provision and accessibility in the Audiology profession, which necessitated the current and similar studies.

Aim: The study aimed to describe the views of Audiologists on the anticipated implications of NHI in the provision and access of audiological services for patients in KwaZulu Natal South Africa.

Method: Following a descriptive survey design, we gathered responses from 21 audiologists working in both private and public sectors through a self-administered online questionnaire. The quantitative data was analysed through descriptive and inferential statistics while the qualitative data was analyzed thematically.

Results: The majority of participants (90.5%) believed that the Nation(NHI) would enhance the accessibility of audiological services. Additionally, 85.7% of them anticipated improvements in both the provision and availability of these services with NHI. Nevertheless, a minority(9.5%) of private audiologists held contrasting views, suggesting that there would be no change or a decline in audiological services under NHI. Concerning patient compliance or health-seeking behaviour, 85.7% of participants expected an improvement with NHI, while 14.3% believed that compliance might remain unchanged, acknowledging its subjective nature.

Conclusion: The findings illustrated that the pending NHI system is regarded as the necessary approach for improving audiological services in KZN, However, private practice owners viewed the NHI as a risk for lowering the quality of audiological services within private practices, owing to the struggles the governmental healthcare system has already demonstrated.

Key terms: NHI, availability, accessibility, provision, and patient compliance.

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SECTION 1 : INTRODUCTION

1.1 Study background

South Africa has socioeconomic challenges including social class discrepancies that affect how private and public healthcare is delivered and accessed by the public, which the National Health Insurance intends to change(Harris et al., 2011). Yet, little is known about how exactly the National Health Insurance (NHI) will bring about a change, particularly from the perspective of Audiologists, among other healthcare providers. The Department of Health, (2011) describes the NHI as health insurance funding implemented for pooling funds and providing affordable access to quality healthcare services to all South Africans regardless of the social-economic status of the individual.

Colonialism and later apartheid affected the spread of socioeconomic resources, placing some racial groups at a disadvantage, to the benefit of others (Rensburg, 2014). This also shaped how healthcare would be accessed, with predominantly private and better healthcare being accessible to those who are financially well off (Hallo De Wolf, & Toebes, 2016). In contrast, others must settle for substandard, governmental healthcare institutions. In South Africa, black Africans are the majority who seek service from the public healthcare sector (Malakoaneet al.,2020), however, are the most individuals affected by socioeconomic challenges, such as they must compete for limited services in government health sectors. The socio-economic challenges in South Africa include financial affordability, physical accessibility, and access to health.

The government or public sectors are often overcrowded with patients, and there are resource constraints. Getting a high-quality, affordable healthcare service within a reasonable distance of those in need of it is the first step toward accessing healthcare. It also refers to the availability of open hours, appointment systems, and other aspects of service organizations so that people can access services whenever they need them (Villiers, 2021). Financial affordability is the second dimension of access and the main cause of overcrowded patients in government health facilities, this is the measure of a person’s ability to pay for services without any financial hardship, it considers not only the healthcare service prices but also indirect costs such as the transportation costs (Villiers, 2021).

South Africa faces numerous challenges in delivering high-quality health services to the majority of its population. The NHI program is intended to extend population coverage,

improve the quality and quantity of the services that the population will be entitled to, as well as provide financial risk protection to individuals and households while reducing the direct costs that the population will be exposed to when accessing healthcare (National Department of Health, 2017). According to the Department of Health, (2019), The NHI program aims to promote equity and social solidarity through the pooling of risks and funds and create a single, publicly owned and administered health fund with adequate reserves and funds to plan for and effectively meet the health needs of the entire population.

The end of apartheid allowed for opportunities for the democratically elected government to plan and for a correction of the previous injustices. Policies include the most recent change in the form of NHI. National Health Insurance will combine both public and private healthcare funds to provide everyone with quality health services (Department of Health, 2001).

The South African health system presents with challenges of the quadruple burden of diseases, which includes both communicable and non-communicable diseases (World Health Organisation, 2018). The quadruple burden of diseases has led to an increase in South Africa in the proportion of individuals with acquired hearing impairment due to ototoxic medication (Harries, 2012). More specifically medications used to treat some communicable diseases such as Multi-Drug Resistant Tuberculosis (M-DR TB) and non-communicable diseases (such as cancer and hypertension) which led to the high need for audiological services are among those that can be classified as ototoxic (HPCSA, 2018).

Audiological services such as monitoring are generally referred to as early identification, yet the concept also describes the principle of early intervention (American Academy of Audiology, 2009), for instance when changes are detected early in the auditory pathway early intervention will commence. Audiological services can be applied in many aspects such as ototoxicity monitoring as well as noise exposure monitoring. Ototoxicity hearing monitoring is primarily done for two main reasons: which includes early identification and detection of any changes in the auditory status due to the use of ototoxic medication and the second purpose is to provide early intervention if any changes are detected (American Academy of Audiology, 2009). The successful implementation of audiological monitoring programs is based on the availability of health resources and the accessibility of the patients to such health resources. All patients on ototoxic medications must have quality access to health care services which includes the collaboration of health professionals (HPCSA, 2009).

1.1.1 Statement of the problem

South Africa is a developing country with limited resources and a paucity of health practitioners, which makes the audiological services limited in both public and private health facilities(Gopaul,2018). In a study conducted by Govender (2016), it was stated that the quadruple burden of disease, which has been characterized as HIV/AIDS and TB, maternal and child mortality, non-communicable diseases, and injuries, has been described as straining in the public sector.

Many public hospitals' healthcare delivery systems are in a critical state as a result of poor facilities, inadequate financing, poor administration, and neglect (Maphumulo & Bhengu, 2019). The NHI is intended to resolve some of the aforementioned challenges, by bridging the gap between the private and public healthcare sectors. In South Africa, DOH presents with limited resources and professionals however a greater percentage of the population (84%) rely on the public sector for its health requirements whilst the private sector services 16% of South Africa's population of 48.9 million (Govender, 2016), Which impact negatively in service delivery such as audiological services in public hospitals.

Notwithstanding the limited available literature on the NHI (Myezwa & Van Niekerk,2010; Govender.2016; Senegal, 2018 and Mthembu, 2012), the possible impact of the NHI remains relatively scantly covered through research, Audiology, and other rehabilitation healthcare professions including. There is limited knowledge of Audiologist's views pertaining to national health insurance, there is limited literature about the NHI and the impact it would have on audiological services, and currently, people do not get sufficient full audiological services due to a lack of resources and socio-economic factors.

Audiological services in South Africa are hindered by the lack of resources and socio-economic factors due to their costs, in a study conducted by Ntsibeng & Manyisa (2022) it was stated that DOH felt strongly that the hospital lacked modern technology and other improvements that required for healthcare to provide the greatest quality of treatment.

Although the NHI has the potential to modify practices, it is unclear how this will occur, particularly in Audiology services. Most crucially, audiological services, the frequency of relevant examinations, and so on may alter if patients' financial capacity to obtain healthcare services changes. This topic seeks to address the fact that little is known about what

Audiologists believe will change in Audiological services as a result of the implementation of NHI, particularly in provinces with a high illness burden, such as KZN.

1.1.2 Significance and Novelty of the Work

According to Myezwa and Van (2013), every profession, including those in rehabilitation, must assess its research, service delivery, and financial and personnel distribution, as well as its response to the burden of disease and the level of care provided, in order to have equitable service delivery. There have been studies conducted for the other professions e.g., 'Pharmacists' perception of the implementation of the National Health Insurance in South Africa", by Pienaar (2016), hence this study must be conducted as there seems to be no publicity available record of such research regarding audiological practices and NHI.

This study can be used in combination with existing National Health Insurance policy (Republic of South Africa's Department of Health, 2019) and literature (Maphumulo & Bhengu, 2019; Edda, 2013 & National Department of Health, 2020) to guide the implementation of NHI in the rehabilitation department specifically in the audiology department in both public and private healthcare facilities as it also focuses on the implications and outcomes of the employment of the National Health insurance in KwaZulu Natal.

The findings will help in determining whether the implementation of NHI in audiological practices in the province of KwaZulu Natal would improve the audiological services or not, and if yes how from the current measures they are using. On the findings, the focus will be mostly but not limited to the adequate availability of resources needed for audiological practices, the employment rate of audiologists, and the accessibility of these services.

1.1.3 Rationale

The primary goal of the National Health Insurance (NHI) is to attain comprehensive healthcare coverage for the entire South African population, focusing particularly on financial aspects. It seeks to ensure fairness and social unity by consolidating risks and resources. (NDOH, 2020).

With that being said every individual has a right to access health care and be provided with the audiological services they need, such as ototoxicity, noise-induced hearing loss monitoring, tinnitus management, newborn hearing screenings, vestibular assessments, cochlear implant evaluations, hearing aids evaluation and fitting, and aural rehabilitation interventions. With the

expense of receiving these services and the availability of equipment, certain facilities cannot receive these services.

Audiological services are of paramount significance for maintaining the quality of life for all individuals, especially those with hearing, ear-related, and balance problems. South Africa has one of the highest rates of HIV and tuberculosis, and thus a potentially greater degree of the population is being affected by hearing loss from the medications used to treat these illnesses (Moodley et al.,2021). Many people are exposed to noise thus being a potential factor for noise-induced hearing loss.

Hearing loss is already a factor that accelerates communication breakdown and can further impact the patient's socio-emotional well-being (Ludlow et al., 2018). It thus becomes imperative to investigate and understand the potential change that would be brought about by the implementation of National Health Insurance in audiological services.

A study conducted by Moodley et al., (2021), even outlined that there is a lack of resources for the effective implementation of an ototoxicity-monitoring protocol, this even further proves and motivates us to investigate the possible benefits of NHI by providing audiological services.

Most of the audiological services are not provided in most public sectors such as vestibular assessment, electrophysiological assessments, and cochlear implantations due to a shortage of resources and qualified staff. A study conducted by Bhamjee et al., (2022) found that the cochlear implantation programs currently present with challenges due to the lack of early hearing diagnosis, which is the result of a shortage of resources to conduct newborn hearing screening and a shortage of hearing aids which hinder the process of hearing aid trials. In South Africa CI programs are delayed due to the limitations of funding, poor compliance of patients with their appointments, inequitable access of patients to healthcare, and limited rehabilitation resources (Bhamjee et al., 2022). It thus becomes imperative to investigate audiologist views regarding the anticipated potential impact of the NHI with regard to the provision, accessibility, and patient compliance with the audiological services.

1.2 Literature Review

This literature review focuses on existing knowledge about the National Health Insurance (NHI) and its role in the accessibility of healthcare facilities. The healthcare system in South Africa has a significant gap between both private and public healthcare sectors, and the proposed National Health Insurance Scheme aims to eliminate or fill this gap between private

and public health sectors (Edda, 2013). In KwaZulu-Natal, Eastern Cape, and Gauteng provinces, both Tuberculosis and HIV/AIDS treatment account for most of the public health sector spending and ignoring other health or medical needs (Harris, 2012). The inadequate and poor South African governance and poor management of public hospitals, inadequate funding, and shortage or limited health workers and health resources all result in inadequate quality and delayed public health services (Malakoane et al,2020).

Nowadays, millions of individuals lack access to health care due to a lack of finances, and many others receive inadequate care even at their own expense. These difficulties can be addressed by using healthcare financing systems. The World Health Organization's (WHO) health funding strategies are centered on the primary activities of pooling funds, acquiring services, and creating revenue (Maphumulo & Bhengu, 2019).

According to a policy paper issued by the Republic of South Africa's Department of Health in 2009. It was found that the implementation of NHI will result in the affordable quality of healthcare services that are accessible to all South Africans. This study indicated that since in South Africa, there is mediocre quality and barriers to accessing the healthcare sectors, therefore successful NHI implementation will result in all South Africans having access to quality healthcare services. In addition to this, in many areas, access has increased in the public sector, but the quality of healthcare services has deteriorated or remained poor. The public health sector will have to be significantly changed so as to shed the image of poor-quality services that have been scientifically shown to be a major barrier to access (Bennett & Gilson, 2003).

A descriptive cross-sectional study conducted by Govender (2016), aimed to explore, and assess the knowledge, attitudes, perceptions, and readiness of the private sector community pharmacists in the province of Kwa-Zulu Natal to the National Health Insurance in South Africa by making use of a survey instrument in 497 pharmacists. This study outlined that pharmacists believed that they were ready for NHI, especially with receiving support with regards to skills and IT support and had shown a positive attitude towards it being implemented even though they had shown fear of lacking space in waiting rooms, human resources, and necessary infrastructure. Furthermore, the study has also shown that 41% of the participants indicated poor or no knowledge of NHI whereas 94.08% indicated awareness of NHI.

According to the study conducted by Myezwa & Van (2013) on the implications of NHI in rehabilitation professionals and service delivery, a gap exists in NHI's applicability or

relevance to rehabilitation. The study involved all professions (Occupational therapy, Physiotherapy, and Speech language and hearing practitioners-joint qualification) under the rehabilitation department for both public and private healthcare facilities. This study indicated that the implementation of National health insurance showed improvement in rehabilitation services. However, the availability of therapists remains a challenge to service delivery. In addition, it also highlighted that due to the quadrupled burden of disease in South Africa, there are still some practical difficulties for rehabilitation which include in-patients referred to hospitals and not receiving attention, no allocation of transport to rehabilitation, premature discharge without therapy leading to complications and readmissions (Myezwa & Van, 2013).

Another study conducted by Senegal, (2018) on Inadequate funding of the health sector resulted in poor healthcare outcomes. In Africa, too many people delay accessing the health care they need because of a lack of insurance or funding. According to available evidence, many people living in Africa do not have access to health insurance. The lack of efficient health insurance means there are significant financial barriers to access to healthcare services such as daily health monitoring including regular blood tests, BP, and chronic medications. This results in poor or delayed access to healthcare services.

According to the study conducted by Mthembu (2012) on the analysis of the nurse manager's interpretation of the National Health Insurance policy, and its implications for implementation in healthcare facilities in the eThekwini district. This study was conducted through a mixed method approach, the study involves nurse Managers in the public Primary Health Care facilities and private hospitals in the eThekwini district. This study indicated that the participants demonstrated a general impression of the NHI rather than a specific understanding. The participants' display of lack of knowledge and understanding of the concept of NHI, and the implementation process was an indication that there was a lack of personal development in relation to expectations from the nurse managers concerning NHI though there is a lot of publicity in this respect from the government and media (Mthembu, 2012). The findings of this study correlate with our problem that there is limited knowledge of health professional's views pertaining to national health insurance.

1.2.1 Audiology and National Health Insurance

One of the challenges in offering audiological services is that currently, Audiology is accessible predominantly through the private healthcare sector (Stach & Ramachandra,2021). This is because there are fewer Audiologists in the public sector than there are in the private healthcare

sector (Bhamjee et al., 2022). However, most audiology patients cannot afford private rates or costs, so they are dependent on the government sector, public healthcare sectors consist of limited professionals and resources which impact negatively towards guidelines for audiological services (Bhamjee et al., 2022). A study by Govender, (2016) has also stated that contracting with private facilities would result in greater equity in facility distribution between rural and urban provinces.

Considering the studies discussed above, we must note that a research gap exists. The literature available, as indicated in the literature reviewed in this study, focuses mainly on the implications of the NHI in South Africa. However, as indicated in the problem statement, the available research is not specific to audiological practices. Literature is also limited in elaborating on the possible implications that will result in the successful implementation of NHI in audiological services in South Africa, specifically in KwaZulu-Natal.

1.2.2 Research Question

What are the views of Audiologists on the anticipated Implications of National Health Insurance in Audiological practices in KwaZulu Natal in both the public and private sectors?

1.3 Summary of the section

This section outlines the rationale for this study regarding the current challenges in audiological services and the importance of providing all services, especially in community-based health sectors. This study will strive to describe the views of audiologists with regard to the potential impact of the successful implementation of national health insurance in audiological services.

SECTION 2 : METHODOLOGY

This section outlines the methodology used to achieve the objectives and aim of this study. It will include the aim and objectives, research design and approach, study setting, study population, sampling technique and size, selection criteria, data collection method, pilot study, ethical considerations, as well as reliability and validity.

2.1 Aims and Objectives

2.1.1 Aims

The study aimed to describe the views of audiologists on the anticipated implications of NHI in the provision, availability and accessibility of audiological services for patients in KwaZulu Natal South Africa.

2.1.2 Objectives

- To describe the current practices in audiological services, related facilitators, and challenges.
- To describe the audiologists' views on the anticipated impact of the NHI on patients' access and availability to audiological services.
- To describe the audiologists' views on the anticipated impact of the NHI on the provision of Audiological services.
- To describe the anticipated impact of the NHI on the healthcare behaviour/compliance of patients in need of Audiological services.

2.2 Research Design

A non-experimental descriptive survey method was used in this study. A descriptive survey becomes more valuable when little is known about the study (Locklear & Motley, 2012). This method aims to collect information about the attitudes, beliefs, or opinions of the participants and it uses surveys to gather data about varying subjects (Locklear & Motley, 2012). This type of survey was applicable to this study as it aimed to describe the views of the participants.

2.2.1 Research Approach

To conduct this study, a quantitative survey design was used. According to Allen (2017), Quantitative research serves the purpose of generating knowledge and fostering

comprehension of the social environment. It enables researchers to systematically observe and study occurrences and their impact on individuals within that context. A quantitative approach uses a fixed way to obtain the required data and makes use of statistical methods to analyse the data collected (Bagwandini, 2014). The use of a questionnaire allows the researcher to collect information on phenomena such as views and present them as numeric values (Muijs, 2011). However, due to the nature of the research interest, the participants were allowed options to expand qualitatively on their views where they saw it fit. Thus, the approach of data collection has elements of the qualitative data, even though it was designed to be predominantly quantitative.

2.3 Study setting

The study was conducted at some of the public and private hospitals of KwaZulu Natal, undisclosed for confidentiality reasons . KwaZulu Natal was chosen as KZN is one of the provinces in South Africa that faces challenges with a large population and limited resources (Kalonji & Mahomed, 2019). The experiences of audiologists in current conditions will be useful to our study and is highly possible that they have anticipation views on how the implementation of NHI would impact on their service delivery. Also due to the convenience and feasibility of the data generation process, it might not compromise the quality of data generation. Permission to conduct research in public hospitals was granted by the DOH research committee.

2.4 Study Population

This study consisted of Audiologists from both public healthcare sectors and private healthcare sectors in Kwa-Zulu Natal, since a population refers to any collection of specified groups of human beings the researcher aims to obtain relevant information (Banerjee, 2010).

2.4.1 Sampling Technique and Size

Convenience sampling (nonprobability sampling) was used in this study. According to Etikan (2016), convenience sampling allows members of the target population that meet the inclusion criteria, such as easy accessibility, geographical proximity, availability at a given time, or willingness to participate to be included as study participants. In this study, convenience sampling techniques were considered to select audiologists in KwaZulu Natal. The sample size determination formula adopted for this study was:

In this study, simple random sampling techniques were considered to select audiologists in KZN. The sample size determination formula that was adopted for this study is: n=((Z^2 p(1-p))/d^2)/(1+(Z^2 p(1-p))/〖Nd〗^2) (Wiley & Sons, 2007), where Z is the upper point of the standard normal distribution, which is 1.96, d is a clinically acceptable margin of errors, which is 5%, P is the expected prevalence of detailed knowledge of the objectives of National Health Insurance, which is 33% (Govender & Mohomed, 2020), and N is the total estimate number of audiologists in KZN, which is 136. The required sample size for having an 80% power was 98. Taking into consideration the possibility of dropouts and unforeseen circumstances, 10 percent (non-response rate) was added to the sample to make a maximum sample size of 108. However, following extensive effort, the participant response rate ended up being extremely low, as indicated in the results section where we describe the participants.

2.4.2 Participation Selection

The sample of participants comprised qualified audiologists registered as both audiologists and speech-language and audiologists currently practicing in the province of KwaZulu Natal. Audiologists were selected based on their accessibility at the hospital or clinic in the KwaZulu Natal province. Inclusion criteria are the essential attributes of the study population that the researchers will utilize to discuss their study topic (Patino & Ferreira, 2018). Typical criteria for inclusion usually involve geographic, clinical, and demographic factors (Patino & Ferreira, 2018). The study participants included people who meet all the following criteria:

- Audiologists with a minimum of 2 years of experience after community service in KwaZulu Natal province
- Qualified Audiologists with a bachelor's degree in Audiology and a qualified audiologist with a Bachelor of Speech-Language Therapy and Audiology.
- Audiologists registered with the Health Professions Council of South Africa.
- Audiologist practicing in academic institutions for pilot study purposes.
- The Audiologist must consent to participate in the study.

2.4.2.1 Exclusion Criteria

Exclusion criteria are attributes of possible future study participants who meet the eligibility requirements but have additional characteristics that may jeopardize the study's excellence or increase the likelihood of a negative consequence (Patino & Ferreira,2018).

- Occupational audiologists, industrial and academic audiologists.
- The Audiologists are located outside of KwaZulu Natal.
- Non-practicing Audiologists as this study requires audiologists to be exposed to challenges faced in either the public or private sector.
- Refusal of Audiologist to participate in the study.
- Audiologists with less than 2 years of experience post-comm-serve.
- Community service audiologists.

2.4.3 Description of Participants

After the pilot study had been completed, the data was analysed to establish validity and reliability, and amendments were made to the questionnaire and process. Only 21 participants audiologists responded, from approximately 115 invitations that were sent, producing a response rate of 18,3%. From the 21 participants who responded 100% of them completed the questionnaires. Thus 21 questionnaires were used to analyse the results of this study. Of the 21 participants, the majority were 30 years or younger and males. Of the 21 participants, twelve 57.1% were from the public sector, five 23.8% were from the private sector and four 19.0% were practicing in both private and public sectors. Further description of the participants is in table 3-2 in the results section.

2.5 Data Generation (Collection)

Online platforms were used such as Facebook and a formal website such as LinkedIn to ensure audiologists were aware of our study. The invitation, participant information sheet, and inclusion criteria information were posted on these platforms. Our contact details were also included to ensure that audiologists interested in participating can be able to contact us. After the permission had been granted by the DOH, we contacted the department of audiology in various public hospitals and sent the invitation with the questionnaires to the various hospitals located in KwaZulu Natal. The contact details of hospitals were sourced from the publicly accessible DOH website. The following procedures were followed:

- Ethical clearance was obtained from the Human Social Science Research Ethics Committee of the University of KwaZulu Natal (HSSREC/00005573/2023).
- Provincial ethical clearance was also obtained from the Department of Health Research Committee (KZ_202305_031) before the study commenced.

- Our study was advertised on different social media such as Facebook and LinkedIn as an advert included the title, inclusion criteria, exclusion criteria, and our contact details.
- Audiology Private Practice Forum (APPF) and South African Audiologist Association (SAAA) were requested to email the questionnaire (Link) to all their KZN members.
- For the public hospitals gate gatekeeper permissions were requested per each hospital and invites were sent post the approval from the medical manager of each site.
- The hospital medical managers were emzxailed with an information sheet (Appendix), HSSREC (HSSREC/00005573/2023), and as well as DOH (KZ_202305_031) approval.
- The professional association boards were both asked to send a reminder to all their members practicing in the province of KZN after a 3-week period.
- Reminders were also sent directly to participants from the public hospital.
- The questionnaire and consent forms were electronically returned to the researchers once it was completed.
- After the period of 7 weeks from the date of questionnaire distribution, data were transferred to the statistical package of social sciences version 28 for analysis.
- The data was coded and analysed with statistician assistance.

2.5.1 Data Generation Method (Approach)

The data collection tool which was used for this study was a self-administered online survey questionnaire comprising closed-ended, Likert-scale, and open-ended questions that probed various areas relating to the views of the participants regarding the impact of the NHI on audiological service in KwaZulu Natal. The questionnaire was created using Google Forms as it is more compatible with apps such as Excel and SPSS, which was further used when analysing data. Implementing the pilot study also provided us with information regarding the time required to complete the questionnaire. This website was chosen because it is free to use, and it tracks the number of participants that have answered the questions, (Rayhan, et al. 2013).

2.5.2 Data Collection Instrument

The questionnaire comprised four sections that are section A, section B, section C, and Section D. Section A was demographic information and consisted of questions pertaining to the participant's biographic details, Section B consisted of questions pertaining to the concept of NHI and the general anticipated impact of NHI on audiological services in section B participants were able to express their knowledge regarding the goal of NHI and allowed to

explain their views with regards impact would be brought by the successful implementation of the NHI on audiological services, Section C consisted of question pertaining to the anticipated impact of the NHI on the provision, accessibility, and compliance of patients with audiological services in the province of KwaZulu natal, with section C participants were also allowed to explain their views and the last section which is section D it consisted of one open-ended question that allowed participants to add any further suggestions that were not accommodated concerning the NHI on audiological services.

The questions allowed the participants to express their current challenges with providing audiological services in KZN and to express their knowledge and understanding of the concept of NHI. The questions also allowed the participants to express their views regarding the impact of the successful implementation of the NHI.

Table 2.1: *The questionnaire covers these sections and the motivation for including the question in the questionnaire.*

Section	**Type of questions**	**Information obtained**	**Rationale**
Section A: **Demographic information and current challenges in audiological services.**	Participants were required to provide biographic details	Age, gender, type of qualification, educational level, area of practice as well as number of years of experience of the participant	The number of years of experience and type of qualification were important as it can impact on selection criteria.
Section B: **Conceptions concerning NHI on audiological services provision.**	Participants were required to provide what they understood to be the goal of NHI and the current	Goal of NHI, and the general overall impact the implementation of NHI will have.	Having this information allowed the researchers to gain an understanding of audiologists'

	challenges they face.		overall perspectives on NHI.
Section C: **Views of audiologists on the potential impact of the NHI on provision, accessibility, and compliance**	Participants were required to rate the possible anticipated impact of the National Health Insurance from Improve, Decline, and No Change.	Potential impact on accessibility, potential impact on the availability, potential impact on the provision, potential impact on patient compliance, potential impact on loads of patients in waiting rooms, on the availability of equipment, potential impact on the availability of audiologists in each healthcare institution and potential impact on cost of audiological services.	This section provided the researchers with insight into how the NHI might affect audiological practices (whether they improve or decline) in KwaZulu Natal. As a result of their views, we gained valuable information regarding readiness, expectations, and challenges associated with the implementation of the National Health Insurance Program.

2.6 Data Analysis

The data instrument tool comprised of both qualitative and quantitative data, however, quantitate data was the predominant one. To analyse the quantitative data descriptive and inferential statistics were used. Furthermore, qualitative data was analysed using thematic analysis.

Descriptive and inferential statistics were used to analyse the data as per personal communication with the statistician. In this study, descriptive statistical methods such as frequency were used. As a result, the researchers were able to provide comments and analyse the results based on the percentages collected. The results were presented in tables and graphs.

The statistician advised on the selection of suitable tests for the number and sample size to ensure good quality of data analysis. Data was entered into Microsoft Excel and was analyzed using Statistical Package for the Social Science (SPSS), version 27. Descriptive and inferential statistics was calculated. The chi-square test was used to test the association between knowledge and practice of audiologists on the anticipated implications of NHI versus socio-demographic variables. Binary logistic regression was used to determine the effects of socio-demographics on audiologists' views concerning the anticipated implications of NHI. All the tests were two-sided, and all p-values reported were tested at $\alpha=0.05$ level. As a result, a p-value greater than 0.05 indicates that the variables are not statistically significantly different.

Thematic analysis is a valuable tool for learning more about people's views, knowledge, experiences, or values when reviewing a group of qualitative data, such as survey responses, (Caulfiend,2023). An inductive semantic approach was used to analyse the dat. This entails analysing the data's explicit content to uncover themes and sub-themes while letting the data dictate your themes. Following their determination that theme analysis was the best technique for examining the data and their choice of methodology, the researchers adhered to the six stages outlined by Braun and Clarke (2006). The researchers formed codes from the data, then the codes were used to generate themes. These themes were further refined into sub-themes after being reviewed.

2.7 Pilot Study

A pilot commenced after we received an ethical clearance from the Humanities and Social Sciences Research Ethics Committee (HSSREC) and clearance from the DOH research committee. A pilot study produces meaningful information that can be used in the researcher's

primary study in addition to other related studies, so it is crucial to provide detailed information on the practicability of the investigation, (In, 2017). In this study a pilot study was conducted to ensure the validity of the online survey questionnaire and to ensure that the questions in the survey were clear, easily attempted to answer and unbiased. The pilot study was conducted on qualified audiologists who met the same inclusion criteria as those applied in the main study. According to the communications with the statistician, 10 audiologists were selected for the pilot study.

Hospitals were contacted and invitations with participants' information sheets and links were sent to 15 audiologists however only 5 responses were obtained, Participants who participated in the pilot study were not included in the main study as amendments were made to the data collection instrument.

Table 2.2: *Pilot study comments and amendments*

Section	Comments	Amendments
Section A: Demographic Information and current challenges in audiological services provision.	One of the participants suggested that we specify whether the audiologist is part of the private sector, either as an owner or employee.	In the question pertaining to the workplace of the audiologist, we included an additional inquiry to determine if they work in the private sector and, if so, whether they serve as an owner or an employee.
Section B: Conceptions concerning NHI on audiological services provision.	No comments were provided.	
Section C: Implementation of NHI	One of the participants expressed confusion regarding the distinction between "availability" and "accessibility."	During the revision process, we explained the terminology used and clarified their intended meaning as researchers.

2.7.1 Data Management and Dissemination

The distribution of research findings is a vital component of the research process as it ensures the knowledge gained from the study reaches its intended audience and has an impact. It is frequently asked for by former participants and desired by the general public, who prefer results obtained later in the study or at various stages of the investigation, (Cunningham-Erves et al., 2021).

The research project will be presented at the end of the year at the UKZN Research Day Presentations. The project will then be stored at the UKZN Audiology department for future access. The research findings will have to be shared through a written research report to the Health Research Knowledge Management (HRKM) as this study will need to be considered for publication purposes, so more people can be aware of it. Participants who engaged in both the pilot study and the main study will receive emails with an attached detailed report on the overall study for feedback on the study results.

2.8 Reliability And Validity, and Trustworthiness

The following efforts ensured the reliability and validity of the study:

The questionnaire was piloted on five conveniently selected audiologists from both public and private healthcare sectors to test for any need for improvement, (Makhoba & Joseph, 2016). The pilot study ensured that the questionnaire and procedure were reliable.

The questionnaire consisted of questions that probed information applicable to each objective and aim of the study as indicated in Table 2.3. Thus, this also ensured the validity of the study. Strategically the questionnaire included questions that cantered on the objectives of the study and the research question. The researcher needs to have a good link between the research question and answer, (Cohen, 2009). Therefore, the questionnaire used for the study addressed specific areas related to the anticipated impl2.3ications of the successful implementation of national health insurance in KwaZulu Natal, thus assisting in answering the research question.

The questionnaire consisted of simple closed and open-ended questions, and minimally time-consuming to complete the entire questionnaire, thus encouraging participants to respond and provide reliable responses, (Leedy& Ormrod, 2013). Clear and detailed instructions were provided before starting to respond to the questionnaire to make it easier for participants to answer the relevant questions.

Table 2.3: *Validity of Data Collection Instrument*

Objectives	Questions
To describe the current practices in audiological services, related facilitators, and challenges.	1. Area of practice. 2. Please choose the services you provide from the ones below. 3. Do you face challenges with the Availability of resources in general (equipment, hearing aids...)? 4. Do you face challenges with the Accessibility of audiology services in general? 5. Do you face challenges with Service delivery? 6. Do you face challenges with patient compliance with audiological recommendations in general?
To describe the Audiologists' views on the anticipated impact of the NHI on the provision of Audiological services.	7. What would be the impact of the implementation of NHI in terms of the following? • Potential impact the implementation of NHI will have on the provision of audiological services. *Question description:* *Audiologists act of supplying and delivering specific services, resources, or facilities to meet particular needs or demands.*
To describe the Audiologists' views on the anticipated impact of the NHI on patients' access and availability to Audiological services.	8. What would be the impact of the implementation of NHI in terms of the following? • Potential impact the implementation of NHI will have on the accessibility of audiological services to patients. ***Question description:***

	Accessibility: *The ease with which patients can access and use services, resources, or information, including those with disabilities or limitations.* • Potential impact the implementation of NHI will have on the availability of audiological services to patients. ***Question description:*** ***Availability:*** *The state of being reliably present and accessible when needed, without interruptions.*
To describe the anticipated impact of the NHI on the healthcare behavior/compliance of patients in need of Audiological services.	9. What would be the impact of the implementation of NHI in terms of the following? • Potential impact the implementation of NHI will have on the compliance of patients with audiological service provision. ***Question description:*** ***Compliance:*** *attending appointments and complying with further follow-up recommendations.*

Different strategies were used for qualitative data to ensure its validity. The evaluative criteria include trustworthiness, credibility, applicability, and consistency, (Hammarberg et al., 2016).

- **Trustworthiness:** It should be clear and transparent how it was done, including the steps taken to generate and maintain the data and any procedural decisions made. Because the technique and procedures are sufficiently described, explained, and justified, a reviewer should be able to follow the development of actions and judgments and comprehend their reasoning, (Hammarberg et al., 2016). The researchers ensured this by sharing the recruitment strategy, the questionnaire as an appendix, and the

analysis including the strategies or approaches used. This will help the reader or fellow researchers to be able to follow through with the research on how it was conducted.

- **Applicability:** When a study's results may be applied to situations unrelated to the study's setting and when clinicians and researchers regard the results to be valuable and applicable to their own experiences, the study is said to meet the criterion of applicability, (Hammarberg et al., 2016). In ensuring the applicability of the study, the researchers took a rigorous and systematic approach to align the research with real-world relevance. First, a thorough review of existing literature was conducted to establish the context and identify gaps in the field. This helped the researchers to pinpoint the specific problem or question the study aimed to address. The researchers also ensured that the study included diverse participants to capture a broad spectrum of perspectives, which was also captured by the qualitative component of the data.
- **Consistency:** The standard for determining reliability is consistency or the dependability of the outcomes. This does not imply that the same outcome would definitely be discovered in other circumstances, but rather that other researchers would discover comparable patterns given the same data, (Hammarberg et al., 2016). To ensure the dependability of the research, the researchers used a thorough approach to data collection, employing a variety of approaches and resources. To promote openness and auditability, a detailed research notebook was kept in which all of the decisions and actions taken during the study were documented. Throughout the investigation, the researchers employed reflexivity to eradicate any potential biases, which served to create a strong foundation for the study's dependability and ensure the consistency and dependability of the findings.

2.9 Summary of the Section

This chapter detailed all the procedures involved in the process of the study. The sampling method and research design assured the reliability of the study while facilitating the objectives and aim of the study. The information obtained from the pilot study assisted the researchers in improving and making amendments to the data collection tool which contributed to the reliability of the main study. The electronic data collection tool allowed the researchers to simplify and facilitate the data collection process, the data analysis and collection procedure allowed the researchers to obtain reliable results which are presented in the following chapter.

SECTION 3 : FINDINGS (RESULTS)

This section outlines the study results which are mostly arranged according to the objectives of the study. Firstly, the section covers a detailed background of the Audiologists who participated in the study. Some of the socio-demographic background details are later compared to the participants responses patterns. Secondly, the section covers the practice patterns of the current study participants. Lastly, this further section covers the views on the anticipated impact of the NHI on service provision, then accessibility and patient compliance, as per objectives of this study (section 2.1.2).

3.1 Description of the Study Participants

An understanding of the participants' background is paramount in appreciating their views. For this reason, we share a detailed participant background, in addition to the brief participant description shared in section. Out of 21 participants completed the questionnaire, 52.4% (n=11) were between 25 and 29 years, 33.3% (n=7) were between 30 and 39 years, and 14.3% (n=3) were between 40 and 49 years. All the participants confirmed their gender, of which 47.6% (n=10) were females and 52.4% (n=11) were males. Consequently, there was an almost equal distribution of participants across genders, which is considered ideal for ensuring a balanced representation of gender perspectives.

Table 3.1: *Demographic Information*

		Count	Percent
Sex	Female	10	47.6%
	Male	11	52.4%
Age1	25-29	11	52.4%
	30-39	7	33.3%
	40-49	3	14.3%
Education	Bachelor honours degree	18	85.7%
	Master's degree	3	14.3%
Qualification	Audiology only	18	85.7%

	Speech and Hearing	3	14.3%
Area of Practice	Both	4	19.0%
	Private sector (As employee)	3	14.3%
	Private sector (As Owner)	2	9.5%
	Public sector	12	57.1%
District of Practice	Amajuba	1	4.8%
	eThekwini	5	23.8%
	Harry Gwala	1	4.8%
	iLembe	1	4.8%
	uMkhanyakude	3	14.3%
	Ugu	2	9.5%
	uMgungundlovu	3	14.3%
	uThungulu	2	9.5%
	Zululand	3	14.3%
Length of practice	10+ years	6	28.6%
	2-5 years	12	57.1%
	5-10 years	3	14.3%

From the 21 participants, 57.1% (n=12) were from the public sector,9.5% (n=2) were from the private sector practicing as the owner, 14.3% (n=3) were from the private sector practicing as an employee and 19.0% (n=4) were practicing in both private and public sectors. There was therefore, almost an even split among the participants exposed to working in the private section and those that work in the government or public sector, which was ideal in terms of representing the private and public sector perspective.

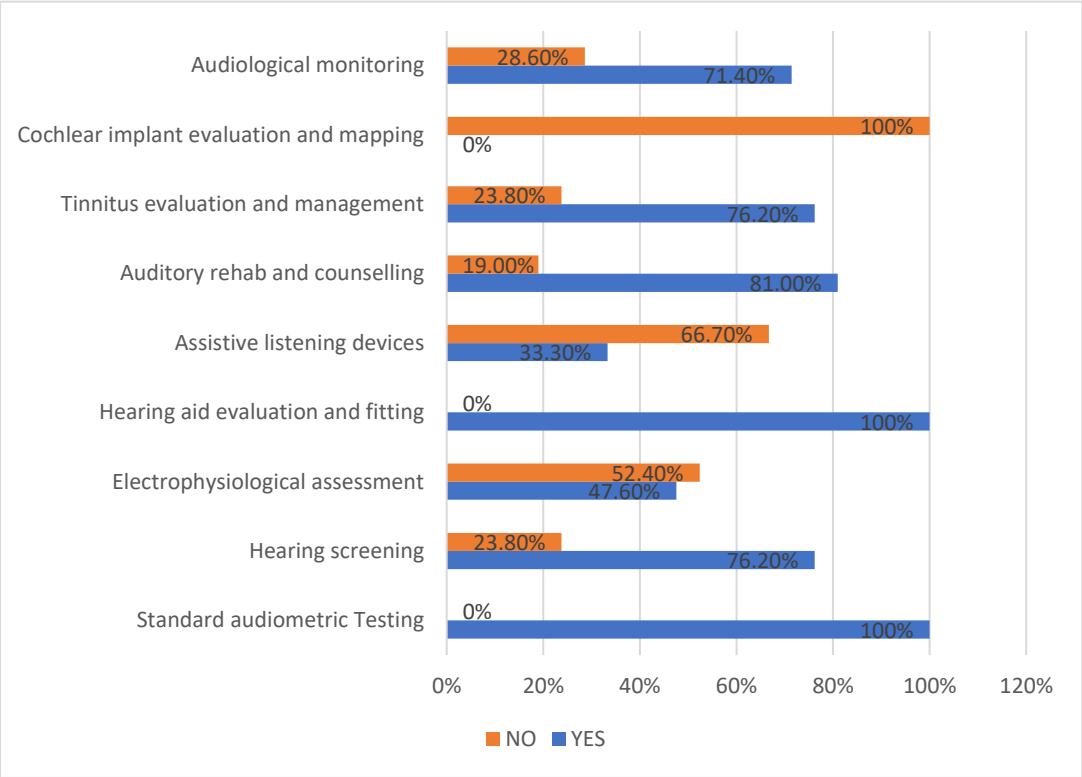
The majority of the participants were from the eThekwini district 23,8% (n=5), followed by uMkhanyakude, uMgungundlovu, and Zululand, 14,3% (n=3), 14,3% (n=3), 14,3% (n=3), respectively. However, each district was represented by at least one audiologist, which was

significant in this study in terms of obtaining views from audiologists from varied contextual background, from well-resourced to underserved areas. The data in Table 3.2 also shows the number of years that the professionals had worked in their capacity as qualified audiologist. Out of 21 audiologists, 57.1% (n=1) had been working for 2-5 years, 28.6% (n=6) for over 10 years and 14,3 (n=3) for 5-10 years. The study comprised participants with over 10 years of experience, a factor that was expected to enhance the data's quality by drawing on their extensive experience in addressing challenges related to audiological services and their expectations regarding the National Health Insurance (NHI). Overall, the participant number of participants was much smaller than the target. However, as will be seen in the next results, the findings provide useful data that was still able to contribute immensely to the understanding of how the current audiologists, at least in KZN view the anticipated impact of the NHI in Audiology. Furthermore, the qualitative aspect of the findings further enhanced the reliability of the findings.

3.2 The current practices in audiological services and related challenges.

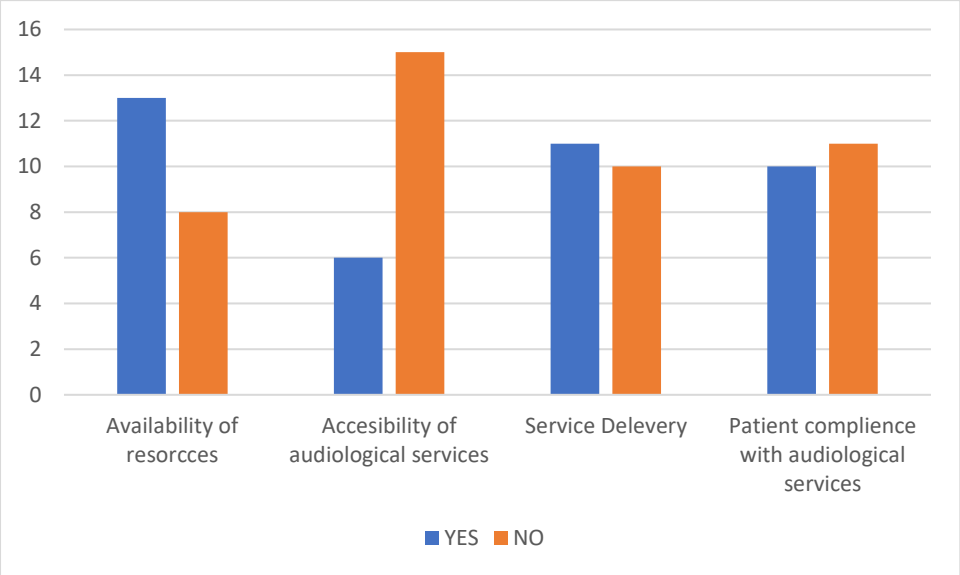
In order to understand the current practices, the participants of the study, as a context of what they are exposed to when they discuss the anticipated impact of the NHI in Audiology service provision. The participants were asked to indicate the services they are currently providing, Hearing aid evaluation and fitting and standard audiometric assessment were the predominant services provided by all participants 100% (n=21), (Figure 3.1).

Figure 3.1 *Audiological services provided by the study participants.*



Aural rehabilitation, hearing screening programs, audiological monitoring and tinnitus evaluation and management 81% (n=17), 76,2% (n=16), 71,4 % (n=15) and 76,2% (16) respectively. The vestibular assessment, electrophysiological assessment, and assistive listening devices were provided by fewer participants in comparison with other audiological services. The cochlear implant evaluation and mapping were not provided by all participants in this study, this aligns with the findings of the study conducted by Bhamjee et al., (2022) that the cochlear implantation programs currently present with challenges due to the lack of early hearing diagnosis, which is the result of a shortage of resources to conduct newborn hearing screening and a shortage of hearing aids which hinder the process of hearing aid trials.

Figure 3.2 *Audiological challenges*



The participants were asked about the challenges they currently experience with regard to audiological services as a whole, in order to obtain a comprehensive understanding of the current issues and challenges encountered in audiology field. This also gave the researchers an understanding of whether the participants' viewed NHI as a solution to their current challenges.

The availability of resources was the predominant challenge in audiological services, followed by the service patient compliance 66,7% (n=14) and 47,6% (n=10), respectively. The majority of the participants 81,0 % (n=17) experiences no challenges regarding the accessibility of audiological services. The results revealed that some participants 38,1% (n=8) experience challenges regarding audiological service delivery.

The participants went further and qualitatively elaborated to support this quantitative data. Within the preset themes as indicated in Table 3.2 subthemes emerged. Under the theme of resource constraints, two significant subthemes emerged, while the theme of low patient compliance revealed three distinct subthemes.

Table 3.2: *Themes concerning challenges experienced in service provision.*

Theme	**Subthemes**
Limited resources	Lack of human resources(Shortage of professionals) Lack of funds (Lack of equipment)

Poor patient compliance	Transportation costs Poor awareness of audiology Cognitive challenges

The majority 66.7% (n=14) of the participants indicated that they are currently experiencing challenges that hinder the provision and accessibility of audiological services in the province of KwaZulu Natal. Upon the participant's responses, the lack of audiological equipment in hospitals was mentioned as another leading issue in the audiology departments. The participants from the public sector mostly reported challenges regarding the shortage of equipment. The following excerpt further illustrates this:

> *Participant 1 "……As a state department, we require more equipment to provide/ cater for our patient population. We require specialized equipment not readily accessible in state…"*
>
> *Participant 11"…Government is complaining about the unavailability of funds to procure necessary equipment. It also possibly comes with being not recognised enough by the government…."*

The participants further expressed that the shortage of hearing aids in government hospitals is a major challenge as it delays the provision of the audiological services and accessibility hence, it results in long waiting lists of patients. This was confirmed by the following excerpt.

> *Participant 4 "…. most of the public hospitals do not have audiology departments due to the cost of the equipment, and shortage of hearing aids due to loads of patients…."*

Among the respondents, it is evident that the public healthcare sectors experiences challenges arising from the lack of resources, specifically in terms of hearing aids and audiological equipment. Therefore, the public healthcare sectors struggle to provide adequate services to the broader population. The second theme concerning patient compliance is represented by the following excerpts:

> *Participant 18 "… The geriatric population is the most challenging group because most of them present with psychiatric conditions due to aging, they sometimes find it difficult to comply with the rules given to follow in clinics (due to cognition impairments such as Alzheimer's disease, dementia, etc.) …"*

Participant 10"…. Patients are unaware of importance of hearing health…"

Upon the participants' responses the compliance of patients with regard to audiological appointment remains a challenge, which hinder further audiological assessment or interventions since the patients do not come back for review or follow-ups, this was confirmed by the following excerpt:

> *Participant 4"…. Patients do not comply with their appointments especially after they are fitted with Hearing aids…"*
>
> *Participant 11 "…I'm working in a deep rural area; hence most geriatric patients do not take audiological problems seriously. They do not return for reviews, mostly complaining about money and being from far away, which shows the need for prioritization of primary health care, such as outreach especially in the clinics…."*

The provision and accessibility of audiological services in KwaZulu Natal face significant challenges, as reported by participants . A substantial 66.7% of respondents highlighted issues related to inadequate audiological equipment in hospitals, especially in the public sector. This shortage, particularly in hearing aids, leads to extended waiting lists and delays in service provision. In addition, the lack of resources and recognition from the government further exacerbate the situation. Patient compliance emerged as another key concern, with geriatric individuals often struggling to adhere to appointments due to cognitive impairments and a lack of awareness about the importance of hearing health. These issues collectively illustrate the difficulties faced by the public healthcare sector in delivering comprehensive audiological services to the broader population, highlighting the need for increased resources and better patient education and outreach programs.

3.3 Anticipated NHI impact availability and accessibility of audiological services.

The participants were asked to rate the anticipated impact of the National Health Insurance (NHI) on the accessibility of various audiological services on a Likert scale, in order to obtain insight regarding the participants expectations regarding how the implementation of the NHI would impact the accessibility and availability to the audiological services. The participants went further and elaborated qualitatively addressing objectives two and three (see section 2.1.2). From the qualitative data, two primary themes were identified with corresponding subthemes, as shown in Table 3.3. In the context of the theme focused on reduced service

quality, one primary subtheme was identified, while the theme centered on improving audiology services revealed four distinct subthemes.

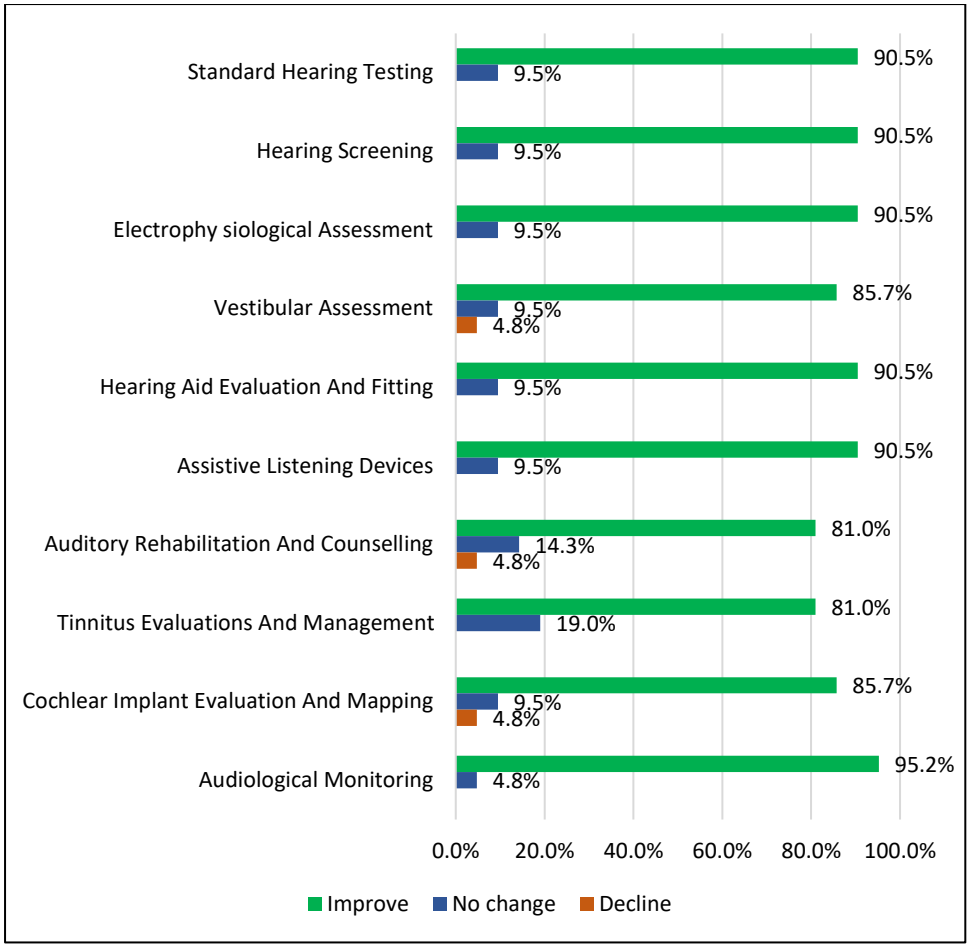
Table 3.3: *Themes concerning accessibility, availability and provision.*

Themes	Subthemes
Decreased quality of available services	Increased patient load shortage of resources and staff Merge of public and private sector
Enhancing availability of Audiology Services	Availability of equipment Availability of staff Improved access to services (early identification, reduce referrals, better hearing loss management)

3.3.1 Impact on accessibility of audiology services

Overall, the responses were generally positive towards the NHI. The majority of participants anticipated that the implementation of NHI would improve the accessibility of audiology services. The service specific views are shared in Figure 3.4.

Figure 3.3: *Impact of the NHI on the accessibility of audiological services*



The majority of participants believed that with NHI implementation, services such as audiological monitoring, assistive listening devices, hearing aid evaluation and fitting, electrophysiological assessment, standard audiometric assessment, and hearing screening programs would become more accessible, with 95.2% (n=20) indicating an improvement in the accessibility of audiological monitoring. Additionally, 85.7% (n=18) thought NHI would enhance the accessibility of vestibular assessment and cochlear implant evaluation and mapping, and 81.0% (n=17) expected improved accessibility for aural rehabilitation services and tinnitus evaluations and management.

The participants went further and qualitatively elaborated to support this quantitative data. Within the preset themes as indicated in Table 3.3. Within the limited resource's theme two key subthemes emerged and three subthemes emerged within the poor patient compliance theme.

Some participants indicated that the implementation of the National Health Insurance (NHI) would improve the accessibility of audiological services for a wider population. They emphasized that NHI would facilitate greater awareness of audiology and enable more people to access well-equipped hospitals for their auditory health needs, Nonetheless, one participant

voiced concerns that while National Health Insurance (NHI) could lead to improvements in audiological services, it might also have a negative financial impact on audiology departments. This sentiment was corroborated by the following excerpts:

> *Participant 2"…. Greater awareness of Audiological services. Greater accessibility to the public at larger. Better management of hearing loss more quickly and efficiently. However, it may have a negative impact financially on the Audiological sector…."*
>
> *Participant 1"…NHI will aid in upgrading state departments to a level that will allow accessibility to all citizens…."*

Moreover, participants noted that several audiological services are presently unavailable, but the implementation of National Health Insurance could enable their provision, leading to a positive impact on audiology. One public sector participant expressed confidence in NHI's potential to enhance service quality and promote awareness of audiology, potentially prioritizing it within government sectors. Additionally, participants highlighted the potential for NHI to improve government hospitals, ensuring they are fully equipped to provide comprehensive audiological services. The following excerpts support this:

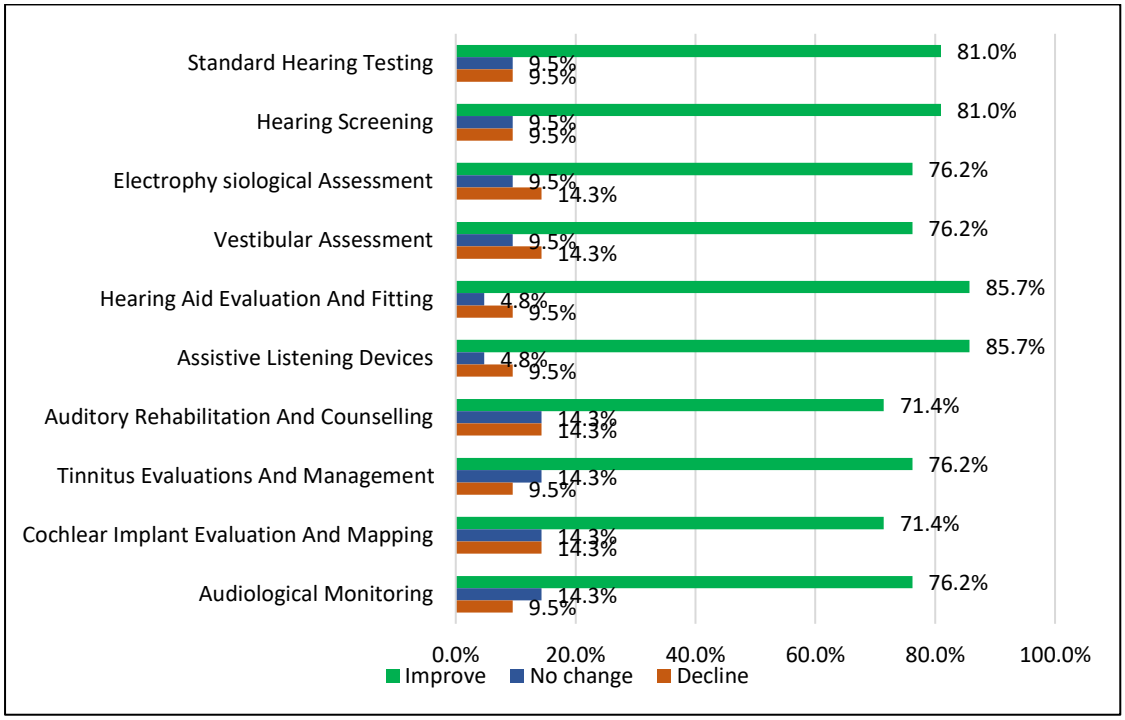
> *Participant 11 "…. If the government will show equal prioritization to all professions in terms of equipment and human resources. NHI will have a positive impact on audiology services. There will be an early identification and intervention to patients with hard of hearing…."*
>
> *Participant 12 "…. It will make audiology services widely accessible, as currently not all hospitals have audiologists and equipment…."*

A minority of private audiologists, approximately 14.3%(n=3), held the view that the implementation of National Health Insurance (NHI) would not adversely affect or might even lead to a reduction in the accessibility of certain services. Their concern centered on the belief that the quality of services might decline due to the anticipated increase in the workload of audiologists, making it more challenging to deliver high-quality care. These respondents were apprehensive that the higher demand for audiological services under NHI could potentially strain the ability to maintain service quality and accessibility.

3.3.2 Impact of NHI on the availability of audiological services

The participants were asked to rate the anticipated impact of the National Health Insurance (NHI) on the availability of various audiological services on a Likert scale, in order to obtain insight regarding the participants expectations regarding how the implementation of the NHI would impact the availability to the audiological services. Audiologists are generally optimistic about the impact of the National Health Insurance (NHI) on audiological services. The service specific views are shared in Figure 3.5.

Figure 3.4: *Impact of the NHI on the availability of audiological services*



The majority, with 85.7% (n=18), anticipate improvements in the availability of assistive listening devices and hearing aid evaluation. Additionally, 81.0% (n=17) of audiologists expect that the implementation of NHI will lead to enhanced access to standard audiometric assessments and hearing screening programs. Furthermore, 76.2% (n=16) believe that NHI will bring about improvements in audiological monitoring, electrophysiological assessments, tinnitus evaluation, and management, as well as vestibular assessments. While some audiologists from the private sector anticipate no change in certain services, a minority foresee potential declines in service availability following NHI implementation.

Beyond the quantitative findings, a qualitative subtheme emerged as indicated in Table 3.3, improved access to audiology services, participants expressed optimism that the

implementation of National Health Insurance (NHI) would enhance audiological services, reduce referrals to higher-level hospitals, and address resource shortages, ultimately improving audiology department practices. The following excerpt further illustrates this:

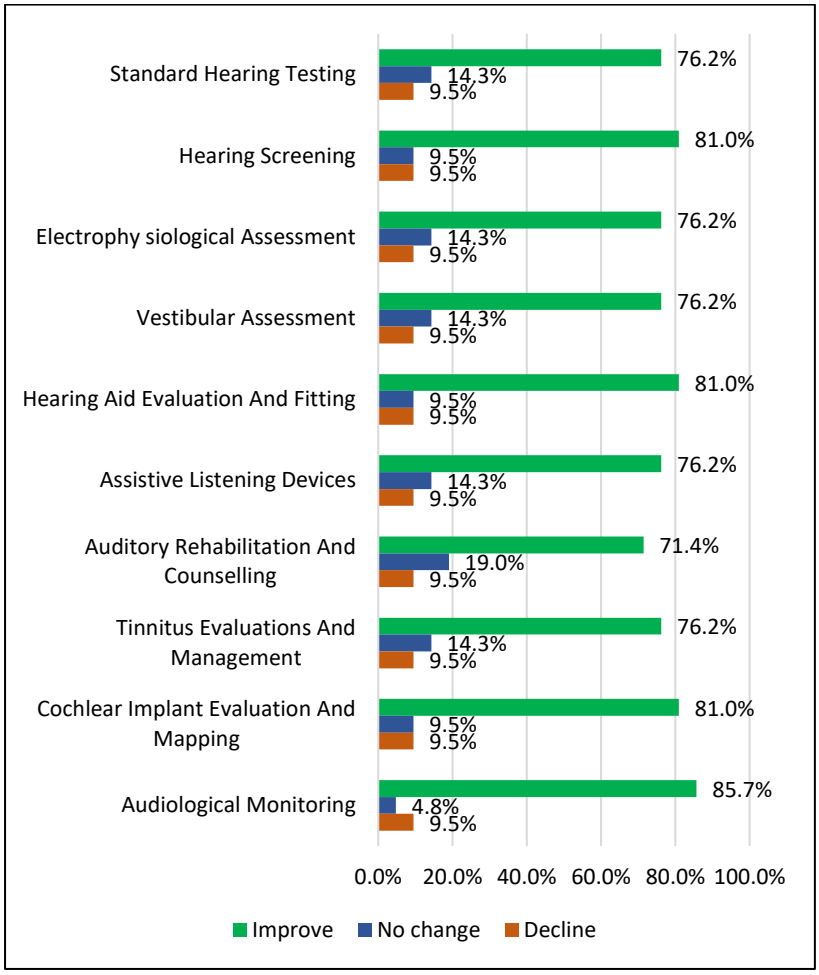
> *Participant 16 "…. To improve services and audiological services can also be provides in public clinics and that can reduce the number of referrals to district and regional hospitals…."*

From the respondents it was noted that the implementation of National Health Insurance (NHI) is anticipated to have a positive impact on audiological services by raising awareness about the importance of audiology and improving the quality-of-service delivery. Historically, audiology is not prioritised, particularly in the public sector. Participants further outlined that, NHI is expected to improve the availability of audiological services.

3.4 Impact of NHI on the provision of audiology services.

The participants were asked to rate the anticipated impact of the National Health Insurance (NHI) on the provision of various audiological services on a Likert scale, in order to obtain insight regarding the participants expectations regarding how the implementation of the NHI would impact the provision to the audiological services. The service specific views are shared in Figure 3.6.

Figure 3.5: *Impact of the NHI on the provision of audiological services*



The majority, 85.7% (n=18), believed NHI would enhance audiological monitoring services. Additionally, 81% (n=17) expected improvements in the provision of hearing screening programs, cochlear implant evaluation and mapping, and hearing aid evaluation and fittings. Furthermore, 76.2% (n=16) anticipated better provision of electrophysiological assessment, vestibular assessment, standard audiometric assessment, assistive listening devices, and tinnitus evaluation and management. For standard audiometric assessment, 71.4% (n=15) thought NHI implementation would lead to improvements, while 19% (n=4) expected no change, and 9.5% (n=2) believed provision might decline. Regarding aural rehabilitation services, the majority, 71.4% (n=15), felt NHI would improve them, with 19% (n=4) predicting no change and 9.5% (n=2) expecting a decline.

Contrary to the sentiments of the public sector audiologists, two private sector participants(owners) further supported qualitatively why they anticipate a decline in the provision of services, as they expressed that NHI implementation would not improve audiology services but rather exacerbate resource and staff shortages as emerged in the subthemes (see

Table 3.3), resulting in a decline in the quality of services provided in the private sector mirroring the challenges faced in the government sectors as indicated by subthemes in Table 3.3. The following excerpts further illustrates this:

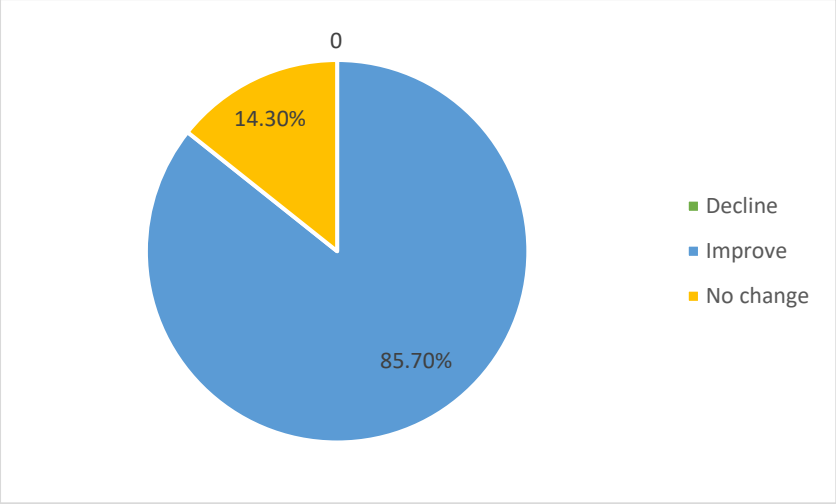
> *Participant 19"……As soon as any system is taken over by the government, it goes down the drain. Thus, Audiology services will be no different…."*
>
> *Participant 21"…. It will impact negatively since private sectors when they are merged with government, quality of services would probably be the same as the public sectors such as shortage of resources and staff……"*

Audiologists working in the public sector expressed optimism that the implementation of National Health Insurance (NHI) would result in overall improvements in audiological services. In contrast, audiologists working in the private sector held a different perspective, suggesting that such integration with the public sector could have a detrimental effect on service quality. They were concerned that the merging of private and public sectors might lead to a decline in the quality of services provided.

3.5 Impact of the NHI on the compliance of patients in need of Audiological services.

From the responses, it could be seen that the majority, 85,7% (n=18) indicated that the patient's compliance with audiological services would improve with the implementation of NHI. Whilst 14.3% (n=3) provided that with the successful implementation of the NHI would be no change in the patient's compliance with audiological services. Figure 3.7 further demonstrates this.

Figure 3.6: *Impact of the NHI on the patient's compliance with audiological services*



Participants expanded their insights by providing qualitative explanations to support the quantitative data. In Table 3.4, subthemes became apparent within the specified theme. Additionally, the theme of improving patient compliance featured two notable subthemes.

Table 3.4: *A theme concerning patient compliance.*

Themes	**Subthemes**
Enhancement in patient compliance.	Subjectivity of patient attendance(patient specific decision). Provision of informational counselling, unrelated to the NHI.

Delving on the participant's response implying that the NHI will not improve the compliance of the patients believed that compliance is subjective, meaning that the patients' decisions to attend appointments are often influenced by their personal perception of the importance of their hearing health. This insight emphasizes that healthcare compliance is not a one-size-fits-all concept but rather a highly personalized aspect of patient engagement. The following excerpt illustrates this:

> *Participant 2"…. The variability of patients attending or not attending an appointment is very subjective and will depend on how important an individual feels about their hearing health…."*

Some believe that there need for an improved information and counselling system as a fundamental requirement for enhancing compliance rates. This emphasizes the importance of healthcare providers effectively educating patients about the early detection of hearing loss and the advantages of audiological services. this was confirmed by the following excerpt:

> *Participant 1 "…. Until we have a better system of providing information counselling and importance of early identification of hearing loss then only will it improve……"*

The participants conveyed the view that there is no direct connection between NHI and patient compliance since the latter is primarily reliant on the willingness and commitment of the individual patients to attend their scheduled appointments. In their perspective, patient compliance is a factor that hinges more on the patient's own initiative and motivation to follow through with scheduled appointments.

SECTION 4 : DISCUSSION OF THE RESULTS

This section focuses on the discussion of the findings of the study and makes reference to the literature. A discussion will be made based on the current study findings and a report on both differences and similarities to other related research in the context of audiological services and NHI. The clinical implications of the study, recommendations for future researchers, and the limitations of the study will also be highlighted in this section. The researchers were flexible to discuss other results in relation to objective one (see section 2.1.2).

4.1 Current practices in audiological services, related facilitators, and challenges.

The findings of the study revealed that most audiological services are provided in both private and public sectors, the standard audiometric assessment and hearing aid evaluation and fitting are the audiological services that are dominantly provided, aligning with the findings obtained by Naidoo, (2006) study, where the findings revealed that most of the large number public and private sectors provide hearing aid fitting and verification to both adults and pediatric populations. The basic audiometric assessments were provided by all participants in this study regardless of area of practice indicating that audiological services regarding the basic audiometric assessments are feasible, this also aligns with findings found in the study conducted by Naidoo, (2006) where similar findings were obtained that the standard audiometric assessment are practiced by the most public and private sectors with no resources such as equipment being the primary challenge.

Electrophysiological assessments, assistive listening devices, and vestibular assessment and management are the least audiological services that are currently provided due to the lack of financial limitations and shortage of resources, similar findings were also obtained by Naidoo, (2006), that electrophysiological assessments such as auditory brainstem response are currently not provided by the most practitioners irrespective of the area of employment, the key reason of not ABR being feasible is the lack of equipment and the insufficient training since the ABR performing and interpretation need extensive good clinical skills. The assistive listening devices are hindered by many factors such as early identification, and insufficient budget in audiology departments, assistive listening devices are currently not feasible in the province of KwaZulu Natal, especially in the public sector, similar findings were also obtained by Visagie et al, (2020) that in south African context the assistive listening devices are current not provided by most practitioners in government hospitals and believed that the pending NHI may be the

catalyst needed to use a system approach to improve audiological services such as assistive listening devices, however a contrary opinion by Managa, (2012), where findings revealed that with the successful implementation of the pending NHI health care system might also not improve since the south African local government still presents with key obstacles with institutional, financial mismanagement, lack of public participation and high level of corruption.

The South African context faced challenges with regard to providing cochlear implant evaluations and mapping services, findings from this study revealed that cochlear implants are currently not dominant in the province of KwaZulu Natal since all the participants from this study were not providing cochlear implant services irrespective of the area of employment, this aligns with the findings of the study conducted by Bhamjee et al., (2022) that the cochlear implantation programs currently present with challenges due to the lack of early hearing diagnosis, which is the result of a shortage of resources to conduct newborn hearing screening and a shortage of hearing aids which hinder the process of hearing aid trials. The findings also revealed that the shortage of resources such as equipment and hearing aids is the leading challenge in the province of KwaZulu Natal which impacts most of the government hospitals to provide adequate audiological services such as hearing screening, cochlear implant services, and vestibular assessment and management, similar findings were also obtained by Malakoane et al, (2020) that the inadequate and poor South African governance and poor management of public hospitals, inadequate funding, and shortage or limited health workers and health resources all result in inadequate quality and delayed public health services.

The majority of the participants reported that are currently not providing vestibular assessment, the findings revealed that vestibular assessment and management is the second least audiological service that is practiced in the province of KwaZulu Natal regardless of the area of practice since the vestibular assessment is the newer introduced service in audiology and the preparations are expensive such as its equipment, the findings aligned with results from the study conducted by Naidoo, (2006) that the vestibular evaluations are likewise not commonly practiced in South Africa, it is likely due to insufficient training, lack of vestibular equipment as the vestibular assessment is a relatively new area. The majority of the participants from the public healthcare sector reported that the patient's compliance with audiological services is the second leading challenge as the majority of the patients do not comply with the audiological, which also impacts negatively and delays the audiological interventions, A study by Bhamjee et al., (2022) also indicated similar findings regarding patient compliance that in South Africa

CI programs are delayed due to the limitations of funding, poor compliance of patients with their appointments, inequitable access of patients to healthcare, and limited rehabilitation resources.

The findings of the study also revealed that government hospitals present with a shortage of professionals in KwaZulu Natal which also appears as the challenge that hinders audiological services such as vestibular assessment as more audiologists become involved in vestibular assessment management and most of the regional hospitals cater for large population which also leads to delayed audiological services and long waiting lists in audiology departments, similar findings were obtained by Hlayisi, (2022) that South African public healthcare system is unfortunately faced several challenges including the lack of skilled professionals such as language speech therapist and audiologists, infrastructural constraints, limited facilities and general lack of resources for the size of population.

4.2 Anticipated impact of the NHI on the provision, accessibility, and availability of Audiological services.

The study reveals a generally positive expectation among participants from the public sector, especially regarding the potential impact of NHI implementation on the provision, accessibility, and availability of audiological services. This positive perception aligns with a study conducted by Myezwa & Van (2013), where the rehabilitation practitioners believed that the NHI implementation would improve rehabilitation services. Based on the study findings it was noted that most of the audiological services are currently limited in government hospitals due to challenges faced by the South African health system such as limited resources, shortage of staff, and lack of audiological facilities, with the successful implementation of the NHI would be a major change and improved availability of the audiological services. Moreover, it aligns with the overarching goal of NHI, which is to improve healthcare access and reduce financial barriers (National Department of Health,2020). The study reveals that audiologists practicing in government hospitals believe that the pending NHI may be the system approach needed to improve audiological services and eliminate all existing challenges within the field of audiology in the Department of Health in South Africa, this is contrary to the findings obtained by Maphumulo & Bhengu (2019) where findings revealed that there were many initiated quality service improvement programmes however did not produce the quality serviced that was anticipated, resulting to the south African government being unsure of the

successful implementation of the NHI to alleviate challenges faced by health care system and improve the quality of health care services.

Based on the findings of the study it was noted that audiologists from the public health sector are the professionals who revealed positive expectations from the pending NHI to improve the availability of audiological services such as assistive technologies, similar findings were obtained by Visagie et al, (2020) that with the successful implementation of the NHI, most of the challenges would be resolved such as sufficient assistive technologies in rehabilitation departments as the access to assistive technology is one of the eight goals of the National Department of Health's' plan. However, a contrary opinion by Burger & Jafta (2010) indicated that the huge challenge faced by south African healthcare system is the crisis of corruption and poor domestic governance as would results on health care suffering even with the implementation of the national health insurance.

On the contrary, the minority of participants, those from the private sector who operated independent practices either as an owner or employee, expressed reservations as they either anticipated no change or a decline in service provision, accessibility, or availability. Private sector audiologists expressed qualitative concerns that the effective implementation of National Health Insurance (NHI) might result in private audiological services encountering issues similar to those in the government sector, potentially diminishing service quality due to resource and professional shortages stemming from government intervention. In the current debates, it has been argued that the NHI may lead to an evacuation of healthcare professionals and limit choices for those who can afford private care. It was also evident that this minority of audiologists were concerned that the successful implementation of National Health Insurance (NHI) system would result in an increased number of patients seeking care in both private and public healthcare settings. Similar findings were obtained by Kamndaya, (2014) that the influx patient would forces the health care facilities to work beyond their capacity and leads to shortage of health care professionals and overcrowding, which would results in a decreased quality of health care. This case load of patients was seen as potentially delaying the efficient delivery of services, as some individuals might experience delays in receiving the services they need.

4.3 Impact of the NHI on the healthcare behavior/compliance.

With regards to patient compliance with audiological services, the majority of the participants believed that patient compliance would improve with the implementation of NHI. This is

however different from what some of the participants expressed as indicated that there would be no change.

A widespread problem, appointment disobedience is more common in underprivileged communities. When patients fail to show up, physicians lose time, become less efficient, and have to use more resources, (Kumthekar & Johnson, 2018). In South Africa audiological services are delayed due to the poor compliance of patients with their appointments, inequitable access of patients to healthcare, and limited rehabilitation resources, (Bhamjee et al., 2022), again patient compliance made the list, this indicates that it is a common issue that needs to be addressed. A common theme among the participants who said there would be no change was subjectivity. They explained that patients' decision not to comply with the audiological appointments was based on "how important they feel about their hearing.", one participant even went deeper and explained that only with more awareness made of audiology would there be an improvement in patient compliance, and yes studies have shown that there is a lack of awareness about audiology in South Africa, (Joubert et al., 2017).

There was a relationship between the participants' responses on accessibility and availability, and patient compliance. A majority of the participants had reported that there would be improvement in accessibility and availability. They brought this up again, indicating that there would be an improvement in patient compliance with audiological services due to the fact that the implementation of NHI would improve accessibility and availability. One participant supported this statement by mentioning that with the implementation of NHI, audiologists would be found at local clinics eliminating transport costs, which according to Azia (2016), has proven to be a contributing factor.

4.4 Limitations

Although this study has revealed pertinent information regarding the anticipated implications of national health insurance some limitations are identified:

- The sample size was small to make a generalization to the entire KwaZulu Natal province. The expected sample size was not achieved.
- Electronic data instruments led to slow responses since not all participants may have had easy access to the electronic questionnaire.

- The participants of the study were not from all KwaZulu Natal districts which may not be a representative of the whole province.

4.5 Clinical implications

Study findings regarding the impacts expected on audiological services in KwaZulu Natal by the National Health Insurance (NHI) have important clinical implications for healthcare workers in South Africa. It stresses the importance of interdisciplinary collaboration in healthcare, particularly within rehabilitation departments, emphasizing the need for audiologists to work closely with other medical professionals. The NHI's patient-centered approach underscores the importance of tailoring audiological services to individual patient needs and preferences, pushing for personalized care plans and improved patient education. Moreover, the call for equitable access to healthcare services necessitates resource allocation strategies that ensure audiological services reach underserved populations, potentially through innovative approaches like telehealth or mobile clinics. In order to prepare for the evolving healthcare landscape, healthcare workers should focus on standardization, quality assurance, data collection, education, and advocacy.

Not only in KwaZulu Natal but throughout South Africa, these clinical implications can enhance the quality of audiological services.

4.6 Recommendations for Future Research

Expanding the study beyond KwaZulu-Natal to a national level is essential to provide a comprehensive assessment of National Health Insurance (NHI) implications in audiology across South Africa. Another focus should be on understanding patient perspectives, including satisfaction, preferences, and access barriers, which can inform targeted improvements in audiological services under the NHI. Furthermore, it is crucial to explore the differing viewpoints of private and public audiologists regarding the NHI, as limited research exists in this area. Replicating a similar study on a larger scale or in different contexts is recommended to strengthen the current study's findings, ensuring a more robust and conclusive analysis of the NHI's impact on audiology.

4.7 Summary of the section

This section presented a discussion of results as analysed in the above section (see Section 3 , it went further to discuss as supporting with relevant literature discussing how the participants

responses differ or are similar to the existing literature . The limitations, implications, and recommendations for future research were also highlighted in this section so that researchers may utilise this information to improve on future studies, providing enriched information regarding the NHI.

SECTION 5 : CONCLUSION

The conclusion of the study will be highlighted in this section, it includes a summary of the findings.

5.1 Summary of the findings

In the South African context, audiological services are currently facing significant challenges. The study findings showed that most of the audiological services are practiced in the province of KwaZulu Natal regardless of the area of employment, however some of the newly introduced audiological services including vestibular assessment and management, electrophysiological testing, cochlear implant evaluations and mappings are currently not feasible in the province of KwaZulu Natal, due lack of resources such as expensive audiological equipment's, and shortage of professionals. The findings further illustrated that audiologists believe that audiological services would improve in public healthcare sectors with the successful implementation of national health insurance, Nevertheless, a minority of participants expressed concerns that the quality of audiological services in private practices might deteriorate, potentially mirroring the challenges faced by the public health sector.

5.2 Summary of the section

This section provides a comprehensive summary of the study, encompassing the rationale behind the research, the key findings, and the ensuing discussion. It offers a concise overview of the study's context and its implications aiming to answer the research question(see section 1.2.2)

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APPENDICES

Appendix A Consent form

I, _____, consent to participate in the study titled "Anticipated Implications of National Health Insurance in audiological Practices in KwaZulu Natal".

I understand the purpose of the study.

I have been given an opportunity to answer questions about the study and have received answers to my satisfaction.

I declare that my participation in this study is entirely voluntary and that I may withdraw at any time without affecting any of the benefits to that I usually am entitled.

If I have any further questions/concerns or queries related to the study, I understand that I may contact the researcher at:

_____ _____

Signature of participant_____ Date _____

Appendix B: Participant Informational sheet

Date: 2023-08-01

Dear Potential participant

We are the Final year undergraduate Audiology student researchers at the University of KwaZulu Natal, conducting a study under the supervision of Mr. Makhoba, in partial fulfillment of the Audiology degree.

We kindly invite you to participate in our research (entitled): The Anticipated Implications of National Health Insurance in audiological practices in KwaZulu Natal. This is the first of two studies currently being conducted in KZN on the NHI. The study has been granted Ethical Clearance/approval from both the Department of Health (KZ_202305_031) and the UKZN (HSSREC/00005573/2023).

Should you be keen to take part in the study, we kindly request that you indicate your interest by signing the informed consent at the beginning of the survey. Your participation will not involve any risks or harm.

All personal details given by participants will be kept confidential, and no personal details will be used in this research study. Informed consent will also be requested from all participants which will contain all the relevant information regarding our study.

In the event of any problems or concerns/questions, you may contact the researchers/clinical supervisor at:

Sincerely,

Iviwe Ketshana- 220029805@stu.ukz.ac.za

Xolisani Myaya- 219066744@stu.ukzn.ac.za

Sihle Shabalala- 220007838@stu.ukzn.ac.za

Musawenkosi Makhoba-Makhobamu@ukzn.ac.za

Appendix C: Questionnaire:

The anticipated implications of Health Insurance in Audiological Practices in KwaZulu-Natal.

by Iviwe Ketshana, Xolisani Myaya and Sihle Shabalala Supervisor: Musawenkosi Makhoba

* Indicates required question

Dear Esteemed Participant,

Thank you for participating in our study on the effects of National Health Insurance (NHI) on audiological practices in KwaZulu-Natal. Please note that this is a separate study from any previous ones you may have participated in, it is one of two UKZN studies on NHI currently conducted. Your contribution is invaluable as it contributes to a larger collective effort to aid in planning for the future implementation of NHI and improvements of Audiology in KwaZuluNatal. We appreciate your time and dedication to enhancing audiological care in our community.

Once again, we express our sincere appreciation for your involvement in this study. Should you have any further inquiries, please do not hesitate to reach out to us.

Kindly respond to each question by choosing the appropriate response from the given options or writing where required. You will need to complete all the required questions with a red star before you move to the next section. Click the "Submit" button at the end of the questionnaire. Please note down any part of the questionnaire (e.g., questions) that may need improvement for questionnaire evaluation. Thank you.

Constent

1. *

Tick all that apply.

I understand the purpose of the study.

I have been given the opportunity to answer the questions about the study and have received answers to my satisfaction.

I declare that my participation in this study is entirely voluntary and that I may withdraw at any time without affecting any of the benefits that I am usually entitled to.

If I have any further questions/concerns or queries related to the study, I understand that I may contact the researchers and the supervisor.

2. I consent to participate in the study titled "Anticipated Implications of NHI in * Audiological Practices in KwaZulu Natal" by Sihle Shabalala, Iviwe Ketshana and Xolisani Myaya.

Mark only one oval.

Yes

No *Skip to section 9 (Thank you for your participation!)*

Section A (Demographic Information)

3. 1. Gender *

Mark only one oval.

Male

Female

Prefer not to say

Other:

4. 2. Age *

Mark only one oval.

25- 29

30- 39

40- 49

50- 59

60+

5. 3. Education Level * *Mark only one oval.*

- Bachelor honours degree
- Master's degree
- Doctoral degree (PhD)

6. 4. Type of Qualification * *Mark only one oval.*

- Audiology only
- Speech and Hearing

7. 5. Area of practise * *Mark only one oval.*

- Public sector
- Private Sector (as owner)
- Private Sector (as employee)
- Both

8. 6. District of practice *

Tick all that apply.

- Amajuba District Municipality eThekwini Municipality
- Ilembe District Municipality
- Harry Gwala District Municipality Ugu District Municipality uMkhanyakude District Municipality uMgungundlovu District Municipality uMzinyathi District Municipality Uthukela District Municipality
- Uthungulu District Municipality
- Zululand District Municipality

9. 7. How long have you been practicing as an audiologist? *

Mark only one oval.

- 2-5 years
- 5- 10 years
- 10+ years

Services you provide

10. Please choose services you provide from the ones below.

Tick all that apply.

- [ ] Standard Audiometric Testing
- [ ] Hearing Screening (Newborn, School-age...)
- [ ] Electrophysiological Assessment (ABR, ASSR, OAEs...)
- [ ] Vestibular Testing and Management Hearing Aid Evaluation and Fitting.
- [ ] Assistive Listening Devices (FM system...)
- [ ] Auditory Rehabilitation and Counseling
- [ ] Tinnitus Evaluation and Management
- [ ] Cochlear Implant Evaluation and Mapping Audiological monitoring (Ototoxicity, Noise Induced...) Other:

8. Challenges

8.1 Do you face challenges with....?

Mark only one oval per row.

	Yes	No
Availability of resources in general	◯	◯ (equipment, hearing aids...)

8.1.1 If yes, please explain.

8.2 Do you face challenges with....?

Mark only one oval per row.

	Yes	No
Accessibility of audiology service in general		

8.2.1 If yes, please explain.

8.3 Do you face challenges with....?

Mark only one oval per row.

	Yes	No
Service delivery		

8.3.1 If yes, please explain.

8.4. Do you face challenges with....?

Mark only one oval per row.

	Yes	No

Patient compliance with audiological ◯ ◯ recommendations in general

8.4.1 If yes, please explain.

Section B (Conceptions concerning NHI on audiological services provision)

First, What is NHI? (Our view)

The Department of Health (2019) describes NHI as a health insurance funding aimed at promoting equity and social solidarity through the pooling of risks and funds and create a single, publicly owned and administered health fund with adequate reserves and funds to plan for and effectively meet the health needs of the entire population.

9. What do you understand as being the goal of NHI? *

10. What do you understand to be the potential impact of NHI on audiological services in general?

Section C (Implementation of NHI)

What would be the impact of the implementation of NHI in terms of the following?

11. Potential impact the implementation of NHI will have on the accessibility of audiological services to patients

Accessibility: The ease with which patients can reach and use services, resources, or information, including those with disabilities or limitations.

Mark only one oval per row.

	Improve	Decline	No change
Standard Audiometric Testing			
Hearing Screening (NewBorn, School Aged..)			
Electrophysiological Assessment (ABR, ASSR, OAE..)			
Vestibular Testing and Management			
Hearing aid Evaluation and Fitting			
Assistive Listening Devices (FM System..)			
Auditory Rehabilitation and Counseling			
Tinnitus Evaluation and Management			
Cochlear Implant Evaluation and			

12. Potential impact the implementation of NHI will have on the availability of audiological services to patients

Availability: The state of being reliably present and accessible when needed, without interruptions.

Mark only one oval per row.

	Improve	Decline	No change
Standard Audiometric Testing	◯	◯	◯
Hearing Screening (NewBorn, School Aged..)	◯	◯	◯
Electrophysiological Assessment (ABR, ASSR, OAE..)	◯	◯	◯
Vestibular Testing and Management	◯	◯	◯
Hearing aid Evaluation and Fitting	◯	◯	◯
Assistive Listening Devices (FM System..)	◯	◯	◯
Auditory Rehabilitation and Counseling	◯	◯	◯
Tinnitus Evaluation and Management	◯	◯	◯
Cochlear Implant Evaluation and	◯	◯	◯

13. Potential impact the implementation of NHI will have on the provision of audiological services.

Audiologists act of supplying and delivering specific services, resources, or facilities to meet particular needs or demands.

Mark only one oval per row.

	Improve	Decline	No change
Standard Audiometric Testing	◯	◯	◯
Hearing Screening (NewBorn, School Aged..)	◯	◯	◯
Electrophysiological Assessment (ABR, ASSR, OAE..)	◯	◯	◯
Vestibular Testing and Management	◯	◯	◯
Hearing aid Evaluation and Fitting	◯	◯	◯
Assistive Listening Devices (FM System..)	◯	◯	◯
Auditory Rehabilitation and Counseling	◯	◯	◯
Tinnitus Evaluation and Management	◯	◯	◯
Cochlear Implant Evaluation and	◯	◯	◯

13.1 Explain

14. Potential impact the implementation of NHI will have on the compliance (attending appointments and complying with further follow-up recommendations) of patients with audiological service provision *Mark only one oval.*

- Improve
- Decline
- No change

14.1 Explain

15. Potential impact the implementation of NHI will have on the following

Mark only one oval per row.

	Improve	Decline	No change
Loads of patients in waiting rooms			
Availability of equipment			
Availability of audiologists at each healthcare institution			
Cost of audiological services			

15.1 Explain

Section D: Additional comments

16. Add any further comments that you think were not accommodated concerning the anticipated implementation of the NHI on audiological services

Thank you for your participation!

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Appendix D: Humanities and Social Sciences Research Ethics Committee clearance

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

17 May 2023

Sihle Mlungisi Shabalala (220007838)
Iviwe Ketshana (220029805)
Xolisani Myaya (219066744)
School Of Health Sciences
Westville Campus

Dear Students,

Protocol reference number: HSSREC/00005573/2023
Project title: The anticipated implications of the national health insurance on audiological practices in KwaZulu-Natal.
Degree: Hons

Approval Notification – Expedited Application

This letter serves to notify you that your application received on 02 May 2023 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL.**

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

This approval is valid until 17 May 2024.
To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

HSSREC is registered with the South African National Health Research Ethics Council (REC-040414-040).

Yours sincerely,

Professor Dipane Hlalele (Chair)

/dd

Humanities and Social Sciences Research Ethics Committee
Postal Address: Private Bag X54001, Durban, 4000, South Africa
Telephone: +27 (0)31 260 8350/4557/3587 **Email:** hssrec@ukzn.ac.za **Website:** http://research.ukzn.ac.za/Research-Ethics
Founding Campuses: Edgewood Howard College Medical School Pietermaritzburg Westville

INSPIRING GREATNESS

Appendix E: Department of health Approval

KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

Physical Address: 330 Langalibalele Street, Pietermaritzburg
Postal Address: Private Bag X9051
Tel: 033 395 2805/ 3189/ 3123 Fax: 033 394 3782
Email:

DIRECTORATE:
Health Research & Knowledge Management

NHRD Ref: KZ_202305_031)

Dear S< Shabalala, I Ketshana & X Myaya
(UKZN)

Approval of research

1. The research proposal titled **'The Anticipated Implications of National Health Insurance in Audiological Practices in KwaZulu Natal'** was reviewed by the KwaZulu-Natal Department of Health (KZN-DoH).

   The proposal is hereby **approved** for research to be undertaken among Audiologists using online survey.

2. You are requested to take note of the following:
   a. ***Kindly liaise with the facility manager BEFORE your research begins.***
      This is to ensure that conditions in the facility are conducive to the conduct of your research. These include, but are not limited to, an assurance that the numbers of patients attending the facility are sufficient to support your sample size requirements, and that the space and physical infrastructure of the facility can accommodate the research team and any additional equipment required for the research.
   b. *All research conducted in KwaZulu-Natal must comply with government regulations relating to Covid-19. These include but are not limited to: regulations concerning social distancing, the wearing of personal protective equipment, and limitations on meetings and social gatherings.*
   c. *Please ensure that you provide your letter of ethics re-certification to this unit, when the current approval expires.*
   d. *Provide an interim progress report and final report (electronic and hard copies) when your research is complete to* ***HEALTH RESEARCH AND KNOWLEDGE MANAGEMENT, 10-102, PRIVATE BAG X9051, PIETERMARITZBURG, 3200*** *and e-mail an electronic copy to hrkm@kznhealth.gov.za*
   e. *Please note that the Department of Health shall not be held liable for any injury that occurs as a result of this study.*

For any additional information please contact Mr. X Xaba on 033-395 2805.

Yours Sincerely

Cl Lutge

Dr E Lutge
Chairperson, Provincial Health Research Committee
Date: 12/06/2023

GROWING KWAZULU-NATAL TOGETHER

1/1

Appendix F: Ethics certificates:

TRREE

Zertifikat
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Certificate

Promouvoir les plus hauts standards éthiques dans la protection des participants à la recherche biomédicale
Promoting the highest ethical standards in the protection of biomedical research participants

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The University of Hong Kong

Iviwe Ketshana

a complété avec succès - has successfully completed

Introduction to Research Ethics

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of the TRREE training programme in research ethics evaluation

Release Date: 2022/08/01
CID : AT8FCIOiKX

Professeur Dominique Sprumont
Coordinateur TRREE Coordinator

APPROVED BY SIWF FMH ISFM
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CID : BGqLngWBrZ

Professeur Dominique Sprumont
Coordinateur TRREE Coordinator

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