

## CHAPTER TWO

### THE OUTCOMES OF HEARING AID FITTINGS IN DEVELOPED AND DEVELOPING COUNTRIES

Aim: To provide an overview of the principles of hearing aid service delivery in developed countries, and to critically review research and challenges observed in this context. To evaluate the current practices of hearing aid fittings and aural rehabilitation in developing countries, as well as review specific obstacles with regard to the South African context.

#### 2.1 INTRODUCTION

With regard to the practice of hearing aid fittings, presently there is no unanimous concurrence among audiologists and speech-language pathologists as to what constitutes a successful hearing aid fitting. Many audiologists' beliefs on successful fittings often lie with only one of the following levels namely impairment level, activity level, participation level, satisfaction level, health related quality of life and cost benefit (Table 2.1), whereas it should include all. In Table 2.1 the outcomes of a successful hearing aid fitting can be viewed.

**Table 2.1: Outcomes of Successful Hearing Aid Fitting** (Based on WHO's International Classification of Impairment, Handicap and Disability ICIDH-2, 2000 and Tye-Murray, 2004).

Level of Impairment, Handicap and Disability caused by Hearing loss	Potential effects of a successful hearing aid fitting
Impairment Level	Improved recognition / discrimination and perception of environmental sounds and speech (Hall & Mueller, 1998:187).

Activity Level	The person has improved ability to have a conversation in various listening situations including a noisy environment (Katz, 2002:642).
Participation Level	The person has improved ability to find employment where spoken communication is a requirement (participate economically in society) (Hall and Mueller, 1998:529).
Satisfaction Level	Possible increased confidence of the person i.e. ability of the person to participate in social and cultural activities (Sandlin, 2000:564-567).
Quality of life	Possible decreased loneliness, depression and isolation due to hearing loss (Sandlin, 2000:566).
Cost Benefit	Purchase of hearing aid, batteries and servicing is justified because the individual has economic benefit indirectly derived from wearing the hearing aid e.g. the person is now able to earn a salary to pay for hearing aid expenses (Sandlin, 2000:471).

The above table illustrates the various levels of impairment, handicap and disability in relation to potential effects of wearing a hearing aid. This is an important consideration as a successful hearing aid fitting will ensure maximum benefit and utilisation of the hearing aid by an individual. “Stress on ethical practice will emphasize ‘total care’ of the patient. Not only will audiologists assess the magnitude of the hearing loss and select and fit the appropriate hearing aid, but they will also manage the patient over a sufficient period of time to ensure maximum benefit from amplification use” (Sandlin, 2000:746). Hearing aid fittings serve to enhance an individual’s communication in all environments i.e. social, home and work (Sandlin, 2000:748).

Since hearing loss affects the family and social contexts more, the participation of hearing relatives and friends should be encouraged (Alpiner & McCarthy, 2000:275-277). Family involvement is essential with all clients, and requires additional support, such as specific and supplementary counselling about the diagnosis and rehabilitation (Tye-Murray, 2004:16-17). Client and family involvement promotes the active involvement of all individuals concerned in the rehabilitation process.

It has recently become increasingly common to view rehabilitation as a client-oriented problem-based solving process as opposed to a therapist dominated process (Danermark, 1998:125). Communication is intrinsically linked to human nature of social behaviour and it is therefore important to place emphasis on emotions and communication during aural rehabilitation in addition to the hearing aid (Danermark, 1998:126-9). This is significant as it indicates the current trend in hearing aid fittings internationally.

## **2.2 UTILISATION OF HEARING AIDS IN DEVELOPED COUNTRIES**

### **2.2.1 Satisfaction and use of hearing aids**

Studies conducted in developed countries regarding the provision of hearing aids show that even though technology and economic factors are superior, there is still a significant unmet need regarding satisfaction and utilisation of hearing aids (Irwin, 2004:113). Only 4% of the population with hearing loss in the United Kingdom over 17 years of age have or have had at least one hearing aid (Irwin, 2004:110). Similarly, research conducted in New Zealand, which is also a developed country, illustrated that 40% of hearing aid owners do not use their hearing aids at all and approximately 60% used them for less than four hours a day (Jerram and Purdy, 1996:450). It was also suggested by Kochkin (1997:21-22) that 18% of adults who have hearing aids do not use them, and 47% of hearing aid owners are dissatisfied with their devices. Table 2.2 provides a summary of two hearing aid follow-up studies conducted in developed countries.

**Table 2.2: Summary of two follow-up hearing aid studies regarding utilisation and benefit in developed countries.**

Authors	Participants	Aims	Findings
Humes, Wilson, Barlow, Garner and Amos (2002:428-438)	134 adult hearing aid owners	To examine longitudinal changes in hearing aid satisfaction and usage over periods of 6 months, one year and two years post fit.	Multiple self-report measures of hearing aid satisfaction showed that only 49 of the original 134 subjects were completely satisfied and still used their aids.
Gianopoulos, Stephens and Davis (2002:325-471)	116 adult hearing aid owners	To follow-up on individuals who had been fitted 8-10 years earlier to evaluate usage and benefit.	Overall, 50 patients were still using their hearing aids and 66 were not. Of the 66 who were not, 47 accepted the offer of a new hearing aid, and 8 who had stopped using their aids claimed it did not improve their hearing but hoped that the new one would. The other 39 who discontinued hearing aid use cited handling difficulties, cosmetic concerns, feedback, and irritation. These findings suggest that hearing aid fittings alone, without continued support, counseling, and education would result in many people rejecting their hearing aids.

The above table represented two studies conducted in developed countries, findings for both studies indicated utilisation and satisfaction levels were low and this was related to rehabilitation issues.

### **2.2.2 Reasons for under utilisation of hearing aids in developed countries**

According to Irwin (2004:110) reasons for poor satisfaction and under utilisation of hearing aids could be largely due to embarrassment issues and the stigma attached to people with hearing aids. Lack of awareness and information regarding the benefit of hearing aids, previous negative experiences with hearing aids and lack of rehabilitation or

follow-up services may also impact on utilisation of hearing instruments (Jerram et al., 1996:450).

It is therefore important to examine the factors related to satisfaction and dissatisfaction of hearing aids in order to enhance future hearing aid services.

### **2.2.3 Intrinsic and extrinsic factors that impact hearing aid fittings and future maintenance and utilisation in developed countries**

A hearing aid fitting is achieved by firstly accurately selecting and programming the hearing aid (Seewald, 2000:57), and secondly by obtaining measurements with the individual wearing the hearing aid and ear mould and by making the necessary adjustments (Skinner, 1988:267). These adjustments are referred to as verification and validation procedures and can include objective assessments such as insertion gain measurements and subjective assessments such as speech discrimination audiometry (Skinner, 1988:267-270).

Since the fitting and rehabilitation procedure includes objective and subjective assessments, it is evident that there are numerous intrinsic and extrinsic factors which can positively or negatively influence the outcomes of hearing aid fittings, future use and maintenance of hearing aids issued. Table 2.3 and 2.4 briefly outlines all of these factors:

**Table 2.3: Intrinsic factors which may influence hearing aid fittings** (Based on article by Wong, Hickson and McPherson, 2003:127-137).

<b>Intrinsic Factors</b>
<p><b>1. Age</b></p> <p>Adaptation to use of a hearing aid may be affected by age of the user (Brooks, 1996:55). The older clients were shown to have taken longer to adapt to the device. Furthermore, it has been shown that age can affect additional areas such as manipulation, handling and cosmetic preferences (Dillon, 2000:221).</p>
<p><b>2. Gender</b></p> <p>Gender was also shown to play a role in satisfaction and care of the hearing aid, generally females were shown to be more satisfied and maintain their devices to a higher degree than males (Brooks, 1996:64). According to Dillon (2000:212), gender plays a role in the self-image of the hearing user i.e. females tend to have a more negative self-image when wearing the hearing aid.</p>
<p><b>3. Hearing loss</b></p> <p>Adaptation to use of a hearing aid is also affected by type, degree, configuration and duration of hearing loss. Those individuals with flat, mild-moderate sensorineural and with a shorter onset have been shown to adapt to their hearing aids at a faster rate than those who have more severe hearing losses, especially with a high frequency configuration and those who have had a hearing loss for a long period (Wong et al., 2003:128).</p>
<p><b>4. Hearing aid experience</b></p> <p>It has been shown that individuals with no previous experience or those with prior negative experiences are most likely to under utilise their device or not wear it at all. However, those individuals who are experienced users and have had positive experiences with their previous hearing aids are shown to maintain and fully utilise their devices (Kapteyn, 1997 cited in Wong et al., 2003:129).</p>
<p><b>5. Expectations of hearing aid</b></p> <p>According to Bille and Parving (2003:481) the expectations clients have about hearing aids may have a potential adverse impact on satisfaction and use</p>

of the instruments. It was found that novice hearing aid users have especially high expectations about the benefits of amplification resulting in unnecessary dissatisfaction and non-fulfilment of the expectations and may lead to rejection of the hearing aid (Bille & Parving, 2003:488).

#### **6. Attitude and personality**

Research indicated that people who are more self-motivated are often more likely to use and maintain their hearing aids. It was also shown that individuals who were more embarrassed when wearing a hearing aid had less utilisation and satisfaction levels (Hickson, Worrall & Bishop, 1999:20). Furthermore, personality has been shown to affect the self reported handicap of the hearing aid user i.e. those with low self esteem and introverted had a greater self reported hearing handicap (Dillon, 2000:221). A study conducted by Hutchinson, Duffy and Kelly (2005:32) revealed that greater knowledge and understanding of each individuals personality type is crucial to help the audiologist better counsel the adult hearing aid client. It was also recommended that audiologists administer personality tests to future hearing aid clients or include personality related questions in routine case history taking (Hutchinson et al., 2005:28-33).

#### **7. Hours of hearing aid use**

Common findings indicate that those who used the hearing aid for more than two hours a day were more satisfied than low level users (Brooks, 1985:216). According to Brickley et al., (1996:311) group hearing aid fittings and rehabilitation i.e. conducting the hearing aid fitting with several other first time users, improved the hours of usage of hearing aids and overall positive feelings towards wearing the device. The average time period to allow for familiarisation / acclimatisation to the hearing aid was shown to be approximately four – six months after fitting i.e. to become used to changes in hearing aid benefit (Brooks, 1996:62).

Among factors that can affect hearing aid utilisation, some are inherent to the hearing aid user i.e. intrinsic factors. The above table represents all intrinsic factors which can influence a hearing aid fitting and utilisation.

These factors are important to consider as all individuals are unique and differ from each other. Individual characteristics, personality differences and experiences vary according to circumstances and lifestyle. Therefore, individuals with hearing loss react in distinctive ways to a hearing aid and how they utilise and maintain the device.

It is important for the audiologist to be aware and have an understanding of intrinsic factors that are involved and how to address these factors during the hearing aid fitting and rehabilitation.



**Table 2.4: Extrinsic factors which may influence hearing aid fittings** (Based on article by Wong, Hickson and McPherson, 2003:127-137).

<b>Extrinsic Factors</b>
<p><b>1. Type of instrument</b></p> <p>According to Kochkin (1997:21) individuals with newer and smaller instruments i.e. digital In-the-Ear hearing aids, were overall more satisfied and happier to use their hearing aids in various environments.</p>
<p><b>2. Sound quality</b></p> <p>It is suggested by research that digital and binaural fittings had a positive influence on hearing aid satisfaction and usage, as this improved clarity of sound quality, audibility of soft sounds and speech, directionality and overall performance in difficult listening situations (Kapteyn, 1997 and Kochkin, 2000, cited in Wong et al., 2003:136).</p>
<p><b>3. Benefit</b></p> <p>No conclusion can be drawn regarding perceived benefit of a hearing aid to satisfaction and use of hearing aids as research with regard to this aspect is contradictory. Research conducted in this area was dependent on the types of measures used and therefore all studies show contrastive results (Wong et al., 2003:135).</p>
<p><b>4. Listening situations</b></p> <p>Research shows that quiet listening situations have a more positive impact on usage of hearing aids as opposed to noisy situations (Wong et al., 2003:135).</p>
<p><b>5. Counselling and rehabilitation</b></p> <p>Evidence was shown by Hnath-Chisholm (2004: 464, 476) that the inclusion of a counselling oriented rehabilitation program was a more cost-effective approach for adult onset hearing loss than hearing aids alone, as it had important clinical and economic implications since clients were more prepared to accept their hearing loss and reasons for amplification. Furthermore, it was stated by Dillon (2000:322) that by providing suitable counselling to hearing</p>

aid users enhances the probability that the instrument will be fully utilised.

In addition to intrinsic factors which can impact on hearing aids, extrinsic factors also play an important role in hearing aid fittings and rehabilitation. Extrinsic refers to those factors which are externally caused i.e. by influences within the surroundings. The above table represents the extrinsic factors which can influence hearing aid fittings and rehabilitation. Extrinsic factors can have a positive or negative effect on future hearing aid use and maintenance. However, since extrinsic factors are caused by external influences, these may be less complicated to control during hearing aid fittings and rehabilitation than intrinsic factors.

Both intrinsic and extrinsic factors are fundamental in order to maximise hearing aid satisfaction and utilisation.

### **2.2.3 Community-based audiological services in developed countries**

Most research conducted in developed countries investigated adult hearing aid fittings, rehabilitation and satisfaction within a hospital / institution based paradigm. However, a national study conducted in Britain investigated evidence to persuade the National Health System (NHS) to provide hearing aids for adults at community settings (Reeves, Alborz, Hickson and Bramford, 2000:101-107). Emphasis was placed on community-based audiological and hearing aid services, i.e. at locations away from main health centers, practices and hospitals. This was done as a great number of individuals with hearing loss were situated in the rural parts of the country (Reeves et al., 2000:102).

Two national surveys were conducted, which revealed that 81% of all hearing aid departments in government hospitals were found to provide a service at one or more locations away from their main departments, and these community clinics accounted for approximately 30% of hearing aid evaluations and fittings, including follow-ups. This was seen as a low ratio considering a great percentage of the population live in rural areas

(Reeves et al., 2000:105). Audiologists who worked in these community clinics perceived them to be worthwhile, even though the service provided was often seen as of a reduced quality than at a main hospital. The most common problems in the community clinics were cited as background noise and lack of equipment such as diagnostic tests and adequate soundproof rooms. Clients attending community clinics had reduced costs because of the saving in time and distance travelled i.e. they would not have missed out on an entire day of work. The clinics were therefore economical from a societal perspective (Reeves et al., 2000:106).

Hearing aid service delivery in developed countries whether at tertiary or community levels still has several concerns that require consideration in order to be completely effective.

This section examined the factors that influence the outcomes of hearing aid fittings and aural rehabilitation in ideal settings i.e. the developed world. This is important to investigate as these factors will also impact on hearing aid service delivery in South Africa in addition to specific local challenges.

### **2.3 HEARING AID SERVICE DELIVERY AND REHABILITATION IN DEVELOPING COUNTRIES**

South Africa in many aspects is considered to be developed, however, large gaps in the economy and having a dual economy (i.e. significant differences between wealthy and poor) defines it as a developing country (World Bank, 2004:249-271).

According to the WHO Guidelines for hearing aids and services in developing countries, the following aspects should be adhered to and were developed by an expert working group to address the need for affordable and appropriate hearing aid services, taking into account scarcity of skills, training, finance and services in developing countries. These guidelines represent the minimum requirements for the provision of hearing aids

(including supply, pricing, stock, distribution, spare parts, batteries, etc). Table 2.5 provides a summary of these guidelines.

**Table 2.5: Summary of WHO Guidelines (2004:12-23).**

<b>Area of Hearing Aid Provision</b>	<b>Minimum Performance Specification in Developing Countries</b>
- Manufacturing of hearing aids:	Should be in a form that allows for ease of servicing and components must be readily available and costs should be kept to a minimum. Hearing aids must be manufactured or at least assembled locally as this will ensure ease of access to parts and costs will be reduced (WHO, 2004:12-14).
- Ear moulds:	Facilities for the production of ear moulds should be set-up at district level and replacement of ear moulds conducted by a trained Primary Health Care (PHC) worker (WHO, 2004:15, 25)
- Batteries:	Must have a good distributive network i.e. through PHC / Community Based Rehabilitation (CBR) networks and be available at affordable prices (WHO, 2004:16).
- Instructions to the user of the hearing aids:	Hearing aid follow-up sessions must be in a format that is easily understood. Use of a combination of verbal instructions (in the local language) and booklets / written instruction with pictorial representations. Follow-ups must be done in the community i.e. at primary level in the form of outreach for as long the client requires support (WHO, 2004:23-24).

These guidelines are particularly targeted for manufacturers of hearing aids, distributors, policy makers and service providers at all levels (WHO, 2004:8).

“ A hearing aid should be regarded as only one component of a hearing health system that includes the ear mould, batteries, maintenance, repair, instruction, and rehabilitation” (WHO, 2004:10).

Although the WHO document and guidelines were developed recently i.e. 2004, there has yet to be any implementation of aspects provided in the guidelines thus far in South Africa as all the hearing aids available on the Gauteng Tender are from international companies and therefore not manufactured for the specific needs of the South African context (Tender Document #GSSC-81-2004MC). Although ear mould impressions are taken at tertiary and district hospitals - repairs, replacements and re-tubing of ear moulds (maintenance) is still conducted at hearing aid companies, due to lack of proper equipment such as drills, at government institutions.

This can be attributed to the fact that healthcare in developing worlds has been traditionally pre-occupied with mortality indices and life threatening diseases (Olusanya, 2004:563). As a consequence, hearing loss is a low priority for health systems in the developing world, as technology is too expensive and services are restricted (Madriz, 2001:85). It is also one of the world's most neglected sensory disorders and this disregard appears to be more overwhelming in developing countries (Kumar, 2001:219). However, recently as the mortality rate decreases there is an increased awareness of quality of life issues (Olusanya, 2004:563).

An estimated 250 million people worldwide have hearing loss i.e. 4 % of the world's population (WHO, 2001). Two thirds of this population i.e. 165 million live in developing countries and cannot afford the basic price of a hearing aid which is approximately \$300 and equivalent to approximately R1800 (Kumar, 2001:219). It was also estimated by WHO (2001) that developing countries need more than 32 million hearing aids per year. It was also projected that only one out of every eight hearing aids produced worldwide ends up in a developing country (Olusanya, 2004:567).

In 2001, WHO collaborated with several hearing aid companies to reduce the price of hearing aids and to find ways to enable the provision of a large number of hearing aids by 2003/2004 to the populations living in developing countries. There was still however an obstacle with regard to provision of batteries. The cost of a standard pack of six zinc air batteries was too expensive for the average hearing aid user to purchase, therefore new and innovative ideas had to be put into practice.

McPherson and Brouillette (2004:219) did a follow-up of the WHO project and evaluated the GODISA Trust. This is a non-profit organisation situated in Botswana, which utilised European designed hearing aids with a dedicated solar powered battery re-charger. This product is assembled in Botswana by adult individuals with hearing loss and it has worked well in terms of alleviating the need for zinc air batteries. The evaluation of the design for the solar powered battery was seen as a sound and well-engineered construct, since it was easy to manufacture and assemble locally. Furthermore, the battery was created in a way that could resist shock and humidity making it ideal for the African continent. It was also evident from the evaluation that the field tests conducted were successful as all participants were still using the devices.

The findings of follow-up studies of hearing aid recipients conducted in developing countries had different conclusions than those conducted in the developed worlds. Issues that influenced fittings and rehabilitation in the developing countries are provided below:

**1. General service delivery of hearing aids:** This aspect was influenced largely by political struggles of developing countries (Madriz, 2001:87-92). Politics of a country impact on availability of resources, infra-structure and finances. Studies conducted in Latin American countries such as Cuba showed that even though the government subsidised partial cost of hearing aids there were still limitations in hospital budgets, lack of statistical data (incidence and prevalence information on disorders) and accessibility issues with regard to where the majority of the population was situated in relation the where hospitals were located (Madriz, 2001:90). Similarly, research completed in Ghana revealed that distance to hospital / rehabilitation centers presented an enormous obstacle to providing follow-up services for hearing aid recipients and that untreated hearing

impairment in adults prevented economic potential from being reached (Amedofu, Awuah, Ocansey, Antwi & Brobby, 2004:118).

**2. Effectiveness of aural rehabilitation:** A study conducted in Nigeria investigating the effectiveness of aural rehabilitation concluded that people in a developing country can expect to derive the same benefit and satisfaction from use of hearing aids as their counter parts in the developed world, if an enabling environment for efficient service delivery is created i.e. sustainable and effective delivery of hearing aids (Olusanya, 2004:570). Furthermore, the effects of hearing aid fittings and rehabilitation must be evaluated according to the same standards that are employed in developed countries in order to secure the best outcome (Olusanya, 2004:570).

Amedofu et al., (2004:118-120) evaluated the extent to which issued hearing aids in Ghana are used, as a measure of the effectiveness of aural rehabilitation. Results indicated that over 60% of the sample population did not respond to the questionnaire and this was attributed to basic problems in Africa such as low literacy and poverty. The 40% who did respond showed that over half did not use the hearing aids all the time and that 10% who never used the devices named handling problems i.e. not being able to insert hearing aid properly into the ear, or not being able to adjust the volume control, technical problems such as distortion and feedback from the device and lack of motivation i.e. not wanting to wear the device as the reasons.

## **2.4 HISTORY OF HEARING AID SERVICES AND CHALLENGES IN THE SOUTH AFRICAN CONTEXT**

In South Africa, a number of political, linguistic and economic factors have impacted on health and rehabilitation services (White Paper on an Integrated National Disability Strategy, 1997:6). In the past, most health care services have been inadequate, incomplete and hospital-based (National Rehabilitation Policy, 2000:28). With the inception of democracy in the country in 1994, attempts have been made to rectify and alleviate health care for all previously disadvantaged South Africans. This has been



successful for some aspects in health care. However, audiology service delivery to the Black population is still underserved (Louw & Avenant, 2002:145).

Since 1998, each provincial hospital in Gauteng had approximately 48 clients on their waiting list for hearing aids (Wansbury, 2002:21). It was also noted that the demand for hearing instruments far exceeded the supply, as there was an uneven distribution of funds for the provision of assistive devices within the province. Therefore, in response to the lengthy waiting lists (list for clients who require hearing aids but have to wait until funds are available) and the extensive backlog (clients who have been on a waiting list for over a year), finances were made available to provincial government hospitals for a hearing aid budget, and numerous hearing aids were dispensed to the adult and paediatric population. However, none of these clients were followed up on, unless they themselves came in with a complaint or problem regarding the device. This was due to a number of factors such as lack of audiologists and speech-language pathologists at provincial hospitals and audiologists and speech-language pathologists leaving the public sector, making follow-up evaluations difficult.

While there have been significant advancements in the availability of hearing aids and improved technology, many South Africans with hearing loss do not have access to assistive listening devices such as hearing aids, because of a historically disadvantaged South African context. Since the 1990's, numerous people have been fitted with a hearing aid throughout South Africa. The hearing instruments available on government state tender have been reasonably priced. During the 2003-2004 financial year, Gauteng Provincial Government estimated that approximately R1. 837. 775 was allocated to hearing aid budgets for various hospitals (Refer to Appendices A.1 & A.2). Out of this amount approximately 682 hearing aids were purchased to fit clients. Although this is a considerable amount of money, no provision was made to assess the quality assurance of the fittings for both the adult and paediatric population.

The fitting of hearing aids and the provision of counselling and aural rehabilitation in South Africa is complicated by several issues. These issues will be discussed below:

**Multilingualism:** South Africa has 11 official languages – nine of which are Black African indigenous languages (Drennan, 1998:8). The majority of the population served can speak at least two or more of these languages. Audiologists and speech-language pathologists are mainly white, middle class English and Afrikaans speaking (Louw & Avenant, 2002:145). The client-practitioner profile reveals that 80% of the population (South Africans) are indigenous Black African first language speakers and that less than 1% of the qualified speech–language pathologists and audiologists speak a Black language (Ramkissoon & Khan, 2003:1). Multilingualism and cultural background complicate the selection of communication methods and amplification, as some cultures do not necessarily believe in the benefits of amplification and aural rehabilitation (Amedofu et al., 2004:119).

**Late identification:** Hearing loss in South Africa is on average identified at a late stage, i.e. after the child has been exposed to one or more Black African languages (Ramkissoon and Khan, 2003:2). This is due to lack of systematic screening programs and limitations of subjective screening methods (Swanepoel, 2005:2). The effects of late identification contribute to delays in cognition, socio-emotional development, speech and language development and limited employment opportunities later in life (Swanepoel, 2005:8). Late identification makes aural rehabilitation more complicated, as it will not be conducted in the client’s first language which raises the ethical issue, namely audiologists and speech-language pathologists providing treatment to clients in languages other than their first language (Evans, 2001:22). This problem can be ameliorated by using an interpreter. However this in itself brings about numerous problems. These problems are discussed below.

**Lack of Interpreting Services:** There is a severe lack of trained interpreters for speech-language therapy and audiology services in South Africa due to limited tertiary training programs and unclear employment avenues (Evans, 2001:23 & Fisch, 2001:10). Most therapists and other health professionals resort to using clients’ relatives, cleaners, and other clients as interpreters (Swartz, 1998:26). Issues arise with ad hoc interpreting, for

example clinicians feeling inadequate by using such methods and may also become irritated by the untrained person's lack of skill (Swartz, 1998:31). A great number of errors can also be made during interpretation such as omissions, additions, substitutions, misunderstandings, condensation and role exchanges between the interpreter and clinician (Evans, 2001:24).

**Location of Service Centers:** Audiologists who work in government settings are mainly based at provincial hospitals and not at community clinics, due to infrastructure. A large number of clients live in rural and outlying areas (Hugo, 1998:5). With the introduction of community service for graduates since 2003, many audiologists and speech-language pathologists have been placed at district level community clinics and centers, but lack of necessary equipment and infrastructure still ensures that clients must be referred to a provincial hospital. The National Health System of South Africa requires that service delivery occur at a community level and empower clients by allowing them to have access to adequate health care (Louw & Avenant, 2002:147). Currently there are no mobile clinics or outreach audiology services. Transportation costs are high, and clients cannot afford to miss a day's work to visit the hospital (Swartz, 1998:170). When a defective hearing aid is taken to the hospital it will still have to be sent to the company for repairs, and some clients prefer to go directly to the manufacturer to save time. However, hearing aid companies are located in large cities far from rural settlements, and this factor therefore, also presents an accessibility issue for clients. Locations of hospitals and hearing aid companies do not meet the rehabilitative needs of the low-income population. There is a need to bring services to the people, not vice versa (Hugo, 1998:5).

**Literacy levels of patients:** The population served by government institutions in South Africa is poor and the majority have low levels of education, and subsequently low levels of literacy (Swartz, 1998:46). According to Statistics South Africa Population Census (2001:7), the average educational level is between Grades 8-10, and there is a high percentage (40.3%) of the population that have no schooling or only primary level education. Hearing aid orientation programs are usually accompanied by a pamphlet or

manual on how to use the device. This is mainly in English and Afrikaans and not necessarily in the language of the client. Therefore, some clients are at an added disadvantage by not being able to benefit from written information that they can take away with them.

**Cultural Differences:** Nowadays a great deal of importance is being placed on professional transformation related to the demands of the South African community (Hugo, 1998:4). In other words, academic training must be adequate for the requirements of the culturally diverse workplace. Health professionals need to be competent, sensitive, and respectful to the different communities they serve. This is vital, as differences between clinician and client have a serious impact on the success of rehabilitation services (Louw & Avenant, 2002:146).

**Recollection of information disseminated during hearing aid fittings:** Some audiologists often do not realise the complexities of client's lives. Most individuals lead busy lives and there are a copious number of reasons that work against the probability they will remember what is told to them (Margolis, 2004:1). Furthermore, Margolis (2004:12) noted that clients only remember about 50% of information provided during the hearing aid orientation. Depending on the situation and conditions, 40-80% of information presented may be forgotten. It was also realised that half of what is remembered is incorrect and half is forgotten immediately. Even if the client is a first-language English or Afrikaans speaker, only a certain amount of information can be retained by the person, therefore one can imagine the difficulty with a client who does not speak the same language as the therapist when there is no interpreter (Margolis, 2004:10).

The above-mentioned concerns may result in a sizeable percentage of hearing aids being discarded, underused, or poorly maintained (Tye-Murray, 2004:464). This aspect is evident to audiologists and speech-language pathologists working at government institutions, as most clients do not return for batteries, servicing, repairs or replacement of defective aids and rehabilitation after receiving the hearing aid. Some hearing aids are ordered and not even collected from the hospital (Dr. George Mukhari Hospital Statistics,

2004:1-5). This is not in keeping with the Gauteng Provincial Government's long-term goal, which states that clients must "obtain the greatest benefit from public monies" (Provincial Government Charter, 2004:2).

In order to address some of these problems, Gauteng Provincial Health sought to develop an evidence-based clinical protocol for the dispensation of hearing aids in Gauteng. "Evidence-based practice is described as the conscientious, explicit, judicious use of current best evidence in making decisions about the care of individual patients" (Sackett, Rosenberg, Gray, Haynes and Richardson, 1996:71). Unfortunately, this document is not available for publication but it is said to include the fitting and follow-up criteria of all government hospitals in Gauteng, so that the entire province can utilise one standardised format. This will be similar to what has been done in the United States of America – the ASHA (American Speech and Hearing Association) Taskforce on Adult Hearing Aid Fitting (1997) and the Joint Committee Statement on Adult Hearing Screening (AAA, 2000), which are recommended practice guidelines for the provision of hearing aids and follow-ups based on research conducted in the United States of America.

According to the government's principles of *Batho Pele* "People First", the first and most important duty of public health workers is to serve all South African citizens - by providing equal access to services they are entitled to, and by providing value for money. The National Patients' Rights Charter (Department of Health, 1997:2) clearly states that amongst other services, therapy, rehabilitation, and counselling must always be provided to all clients who require the above services.

## **2.5 CONCLUSION**

Research has shown that even in developed countries where adequate resources such as finance, personnel, infra-structure, etc, are available there is still only a small percentage of hearing aid users that still utilise their device and are satisfied with it. This may be a result of various intrinsic and extrinsic factors. In developing countries such as South

Africa, in addition to intrinsic and extrinsic factors there are also service delivery issues which impact on hearing aid provision.

According to the South African Speech-Language-Hearing Association's Code of Ethics (1997:3) and Guidelines on Service Provision in Hospitals (1998:5-8), audiologists must regularly evaluate the effectiveness of therapy and products dispensed. This can be achieved by using methods, protocols and products that are suitable for the clients' needs, culture and language.

Aural rehabilitation is an integral part of health and well-being of individuals with hearing loss. In South Africa however, there are factors that impede the aural rehabilitation process and may lead to the rejection and misuse of hearing aids. While it is important to remember that no health care delivery system is flawless, it is still necessary to examine ways in which the current system can be improved upon and investigate methods that provide the best health care as possible.

## **2.6 SUMMARY**

This chapter examined service delivery during dispensation of hearing aids in developed countries as well as developing countries similar to South Africa and dilemmas experienced. It also explored issues in South Africa that impact on hearing aid provision and utilisation as these will clarify the findings of the study.