

CHAPTER 3
STRATEGIES TO DEVELOP
EARLY COMMUNICATION INTERVENTION
IN THE SOUTH AFRICAN CONTEXT

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CHAPTER 3

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Aim: The aim of the chapter is to discuss different strategies to enhance communication intervention services in the South African context and, based on a literature overview, present a profile of the subjects who require early communication intervention in order to provide the underpinnings for a computer database to be utilized in the empirical study.

3.1 INTRODUCTION

The profession of speech-language therapy and audiology in South Africa is currently undergoing a paradigm shift to improve imbalanced service delivery, redress teaching programmes and focus its research endeavors on the unique needs of the context (Hugo, 1998; Pickering, McAllister, Hagler, Whitehill, Penn, Robertson, McCready, 1998; Tuomi, 1994; Uys & Hugo, 1997). The paradigm shift has been stimulated by the South African Speech-Language-Hearing Association (SASLHA) since the early 1990's (Lewis, 1994), international and national changes in health care, education for learners with special needs and views on people with disabilities.

Although the profession of speech-language therapy and audiology has a history of providing quality services to people with communication disorders, the focus of services were narrow and not aimed at the needs of the entire South African population (Louw, 1994). The need for transformation was clear as the professions' relevance and effectiveness of training, research and service provision was in question (Lewis, 1994).

The far reaching political changes since 1994 in South Africa and the new government's policy to achieve a reduction in poverty and inequality (Savage, 1998; Woolard & Barberton, 1998) brought about changes in national health, education and welfare policy (ANC, 1994a). Reforms in the different public sectors of society touch the very core of speech-language therapy and audiology as a profession as it implies far-reaching changes in the market place (Hugo, 1998). The focus of planning and management of speech-language therapy and audiology services, including early communication intervention (ECI), is now to develop strategies for the prevention of communication disorders and to deliver services to the *whole* population of people with communication disorders and not only to those people and communities who can afford the services.

The challenge facing the slow but steady growing profession of 1198 registered speech-language therapists and audiologists and 42 community speech and hearing workers (Health Professions Council of South Africa, August 1999) is to effectively serve its clients drawn from the total population of South Africa estimated at 37 859 million people (Central Statistical Services, 1997b).

It is clear that the current South African situation poses great challenges to the profession of speech-language therapy and audiology and ECI as an essential component of the profession. According to Moodley (1999) the insufficient number of professionals to serve the increased population of persons with communication disorders necessitates the adoption of alternative strategies and service delivery models in South Africa. At the same point in time SASLHA (Louw, 1997) is fully aware of the importance of ECI and propagates a nationwide movement toward ECI by providing guidelines for the effective provision of these services by speech-language therapists and audiologists.

In order to develop alternative strategies for ECI service delivery there is an urgent need to systematically collect national and local data to support ECI planning to identify and predict which infants and toddlers are most likely to need

the services of an early communication interventionist (Louw, 1997). The application of information technology to secure data in a database can significantly enhance the quality and quantity of the data (Lord-Larson & Steiner, 1989) to be used as ECI epidemiology in order to plan and prioritize service delivery.

The aim of the chapter is to indicate how current changes in South Africa regarding health care, education, and intervention for people with disabilities can be utilized to develop strategies for effective ECI service delivery in all communities. The identification of appropriate ECI strategies enhanced by a description of the profile of clients requiring ECI in South Africa will provide the underpinnings for a computer database to be utilized in the empirical study.

3.2 CHANGES IN HEALTH CARE IN SOUTH AFRICA

The implementation of ECI in the health care system in South Africa has been identified as a strategy to enhance services to infants and toddlers at risk for communication disorders by a number of authors (Delpont, 1998; Fair & Louw, 1999; Louw, 1997; Moodley, 1999). The aim of the discussion is to indicate how changes in health care, such as the adoption and implementation of a primary health care approach, can enhance the collaboration between ECI and primary health care services.

3.2.1 Adopting a Primary Health Care Approach

International changes in health care came about when many countries adopted the Declaration of Alma-Ata (WHO, 1978) which recognized the attainment of the highest possible level of health for all as a most important world-wide social goal and proposing a primary health care approach as the key to reach that target (Alperstein & Bunyonyo, 1998). The *Global Strategy of Health for All by the Year*

2000 (WHO, 1981) which developed the proposals of the Declaration of Alma-Ata (WHO, 1978) and added specific targets and strategies to attain them, has become a guideline by which countries, such as South Africa, adapted their own health policies.

The goal of the South African health policy is to meet the health needs of the whole population by means of an intersectoral approach, with the emphasis on health care in stead of medical care and with special reference to the consensus that all have the same right to that care (ANC, 1994b; Bower, *et al.*, 1997). One of the means to reach this goal is the development of a comprehensive primary health care system to reach all the different communities in South Africa (ANC, 1994b).

Primary health care evolved from a uni-professional and fragmented community nursing service characterized by district nursing, occupational health nursing and school nursing (Bouwer, *et al.*, 1997) to multi-professional services which are “Affordable, sustainable and essential health care for all individuals, families and communities in the district rendered in accordance with the people’s health needs– and with their full acceptance and participation”.

(Department of Health, Welfare and Gender Affairs, Mpumalanga, 1997, p 77).

Primary health care can offer a variety of services, both preventative and curative, in the form of:

- Prenatal care, childbirth classes and family planning
- Physical examinations for the diagnosis of common health problems
- Preventative services in the form of promotion of health, health counseling and immunizations against infectious diseases
- Treatment of common ailments and chronic diseases
- Early identification of sensory impairments and developmental disabilities
- Home visits and community outreach activities

- Referrals to secondary health care when appropriate (ANC, 1994b; Bower, *et al.*, 1997; Dunbar & Reed, 1999; Edwards, Kaplan, Barnett & Logan, 1998; Kaplan-Sanoff, *et al.*, 1997).

In analyzing the different functions of the newly evolved primary health care approach, it is evident that pediatric health care and developmental services to young children at-risk and with disabilities can be integrated, resulting in holistic care to families and their children (Lequerica, 1997). It is furthermore possible to achieve primary, secondary and to some extent, tertiary levels of prevention of conditions associated with illness and disability by following this approach. The idea that primary health care can provide an infrastructure for communication-based intervention services in South Africa was already proposed by Aron (1991) a decade ago. Since infants and their caregivers in all communities in South Africa utilize primary health care facilities at the minimum for immunizations during the infant's first year, it is an invaluable opportunity to establish ECI in different communities, since the clients are already available at the primary health care clinic or centre.

3.2.2 Collaborative Services between Primary Health Care and ECI

Since mutual goals exist between the primary health care model and the ECI approach (Fair & Louw, 1999) collaboration between these two services appears feasible. An example of an integrated primary health care and early intervention (EI) programme consisting of regularly scheduled well-child visits; developmental surveillance and parent guidance at an urban paediatric primary health care centre in the USA is described by Kaplan-Sanoff, *et al.* (1997). The centre serves a diverse population living in poverty conditions with a high incidence of infants prenatally exposed to drugs and infants born prematurely. The poverty conditions in that particular context posed high risks for malnutrition and lead poisoning in children, as well as family dysfunction. The results of the programme indicate that the children who were enrolled in the health and developmental programme

had significantly fewer emergency room visits at the local hospital, fewer hospitalizations, more regular participation in well-child care and more sick visits at the health care centre. The comparison group displayed the opposite figures, with more emergency room visits, hospitalizations and poor attendance of well-child care and less sick visits at the clinic.

The results imply that families who made use of the primary health care facility had healthier children as well-child care and developmental surveillance provide regular contact between families and health professionals. This resulted in the early identification and treatment of illness and developmental problems and more opportunities for families to receive support and information that promoted their children's health and development. As expected, the programme resulted in significant savings for the particular health system. A key professional on the team proved to be the Family Advocate who built close relationships with the families and explained the philosophy of regular visits to the centre even when the child is not sick (Kaplan-Sanoff, *et al.*, 1997).

Although South Africa may not have the resources to establish similar comprehensive primary health care centres throughout the country, some inferences regarding the collaboration between ECI and primary health care can be drawn from the study (Kaplan-Sanoff, *et al.*, 1997) and transferred to the local context. The inferences are mostly applicable to communities living in poverty, but do not exclude developed communities, and involve the following:

- Children living in poverty, in the first place, are more frequently exposed to medical illness, family stress, inadequate social support and parental depression. Secondly, they experience more serious consequences from these risks than do children from more advantaged circumstances. This implies that children living in poverty experience double risks from their environment, are at greater risk for developmental delays and disabilities

(Kaplan-Sanoff, Parker & Zuckerman, 1991; Lequerica, 1997) and represent a population in urgent need of ECI services.

- A primary health care facility can be effective in the early identification and treatment of illness and developmental delays in young children, resulting in effective preventative care.
- The concept of regular visits to a primary health care facility for health and developmental surveillance must be explained to parents. In the study by Kaplan-Sanoff, *et al.* (1997) this was effectively achieved by the role of the Family Advocate, a professional who could speak the clients' first language and who was able to build ongoing relationships with the families.
- The concept of the Family Advocate seemed to fulfil an essential role on the collaborative team, acting as a bridge between the family and the professionals, especially in a situation where language and cultural differences can act as barriers to effective communication and service delivery. This is of particular importance in the South African health care context where language and cultural barriers are known to influence communication between clients and professionals (Loening & Mbali, 1997).

It appears that these successful collaborative efforts of health and developmental services to young children and their families can provide valuable guidelines for a strategy to extend ECI services in primary health care facilities. As a result of the close association between illness and disability, especially where young children live in poverty (Lequerica, 1997), it appears that a collaborative approach of services to young children and their families can prevent or minimize some of the sequelae of disabilities. In this regard that ECI can make unique contributions to services offered to families at a primary health care facility.

3.2.3 Unique Contributions of ECI in a Primary Health Care Context

In order to develop a strategy for the successful collaboration between ECI and primary health care services it is important to indicate which unique features of ECI can enhance such collaborative services to families:

- EI has succeeded over the years to achieve very strong collaborative relationships with families and this has proven to be one of the two key factors affecting the success of EI (Rossetti, 1993). The family's potential has been utilized to play a variety of roles such as observing, describing, interpreting, evaluating and participating in the ECI process (Crais, 1993). The family-centered EI approach has proven to be effective in programmes for families from diverse backgrounds and positive short-term and long-term effects are possible with families living in poverty (Bryant & Maxwell, 1997). As maternal and child health receives principal health priority status in South Africa (ANC, 1994b), ECI can contribute to the development of all young children at risk and with disabilities, but especially the many newborns, infants and toddlers and their mothers living in poverty and whose only option of health care is the local clinic.
- EI has developed the unique team structure of transdisciplinary service provision (Foley, 1990) which can be employed as a strategy to transfer discipline specific knowledge and skills to the primary health care team, consisting of multidisciplinary health care professionals and community health workers (Moodley, 1999). This implies that ECI has already adopted an operational approach not only to transfer knowledge to fellow professionals, but also to train family members, primary level workers and volunteers from the community. The concept of training of all people involved has been identified by McConkey (1995a) as one of the core aims of EI in developing countries.
- As a result of the widespread development and implementation of neonatal hearing screening in developed countries (Rigo & Arehole, 1998), ECI is

uniquely equipped with appropriate strategies and methodologies to contribute to the early identification of hearing loss and other disabilities in the primary health care context. New knowledge allows the identification of infants with risk conditions and disabilities in the neonatal period already (Kuster, 1999) and thereby paving the way for effective services to infants at risk for communication disorders and their families.

- ECI not only provides effective identification strategies, but has developed an extensive collection of treatment programmes, meeting the needs of infants and toddlers with disabilities,
 - ranging from mild to severe,
 - belonging to families with adequate resources to families living in poverty,
 - living in communities providing appropriate social support to communities experiencing social dysfunction (Guralnick, 1997; See also Chapter 2, Table 2.2).

- As the timing of intervention is critical for the prevention of risk conditions and their sequelae, it is the ECI approach of promoting early communication development which can prevent these conditions from occurring or decrease the effects of disabilities (Rossetti, 1990a). In this regard information to promote normal communication development and identify risks for communication disorders can already be included in the antenatal education of pregnant mothers visiting primary health care facilities. ECI has the potential to alleviate the double risks associated with poverty, as enhanced communication skills early in life more adequately prepares a child for academic progress than any other developmental area (Capute, *et al.*, 1987).

ECI therefore contributes unique and sophisticated approaches such as family-centered practices, transdisciplinary teamwork, numerous identification and treatment methodologies as well as the earliest intervention possible to a health care approach designed to be universally accessible to individuals and families in

their communities. In order to successfully implement the strategy of collaboration between ECI and primary health care in South Africa epidemiological data is required to indicate the varying needs of the different communities. The database approach to research is particularly applicable for collecting epidemiological data required to plan collaborative ECI services.

The collaborative services of ECI in the health sector should be part of a systems approach to health care. According to the Alma Ata Conference on Primary Health Care (1978) developing countries in particular need to co-ordinate the different public sectors as economic development, anti-poverty measures, food production, water, sanitation, housing, environmental protection and education all contribute towards the same goal of human development. This approach is in accordance with the systems model as applied in early intervention where the child is considered part of an intricate system that encompasses individual, familial, community and even larger political factors (Blackwell, Gruber & vonAlmen, 1997; Briggs, 1997). In this regard ECI also has a vital role to play in the education sector of the country, which is discussed forthwith.

3.3 CHANGES IN EDUCATION FOR CHILDREN WITH SPECIAL NEEDS

Since one of the aims of ECI is to enhance a child's communication development for school readiness and successful academic progress (Rossetti, 1996) it is important to take cognizance of changes in educational approaches for children with special needs. ECI, with its unique focus on communication skills, has a crucial contribution in preparing a child for academic success and should use the opportunity to develop strategies for effective service delivery in the changing education system in South Africa.

3.3.1 Inclusive Education for All

International trends in education for children with special needs and efforts coordinated by UNESCO (United Nations Educational, Scientific and Cultural Organization) have culminated in countries adopting *The Salamanca Framework for Action* (1994) which advocates equal opportunities for children with special needs in education and society (UNESCO, 1995). The South African Schools Act (RSA Government Gazette, 1996) adopted this approach embracing inclusive education for all learners and followed the world trend of special needs education reform as part of general education reform (Schoeman, 1998).

The implication is that the public school system now largely provides in the needs of learners with disabilities in stead of special schools allocated with a comprehensive team of professionals of which speech-language therapists and audiologists were part. Due to financial constraints public schools have reduced the already small number of available speech-language therapy and audiology posts in recent years (Tuomi, 1994). The loss of posts in public schools resulted in children with disabilities now entering these schools with limited speech-language therapy and audiology services and leaves teachers without this collaborative support to adapt curricula and design individual educational plans.

The implication of limited communication-based services in schools in South Africa is that ECI services to pre-school children are now more important than ever to prevent or reduce the impact of learning disabilities in school-age children. In this regard Hugo (1998) identified several important new tasks for speech-language therapists and audiologists in the education context and mentions “participation in early / pre-school programmes with specific focus on the development of communication” (Hugo, 1998, p 6) as the first new task.

ECI therefore has an important contribution to make in the present education system in South Africa. ECI professionals have to prove to be indispensable partners on transdisciplinary teams in schools and pre-school settings rather than working only in own areas of expertise as characterized by the multidisciplinary and interdisciplinary team models (Briggs, 1997). In this regard Hugo (1998) proposes a change in the primary role of clinicians offering communication-based services, i.e., not only to identify, screen, assess and treat children with communication disorders, but to be valuable and appreciated members of the education team as consultants and facilitators. An inclusive education approach also demands new collaborative models of assessment and treatment (Klein & Moses, 1994) in school and pre-school contexts which implies that ECI professionals are well equipped to fulfill these roles as a result of their experience in transdisciplinary teamwork.

3.3.2 The Role of ECI in the Education System

Since ECI is the starting point of services to young children at-risk for and with communication disorders it is important for early communication interventionists to participate in developing early childcare programmes and training the caregivers. The important role of ECI in early childcare programmes involving infants and young children, ranging from the informal settings provided by day mothers in their homes, to the formal structures of crèches and nursery schools, can be illustrated in the following arguments:

- As all children are currently eligible for inclusive education, the long-term ECI goal of school readiness as formulated by Rossetti (1998) is now more urgent than ever. This goal applies to children with disabilities as well as those who grow up in poverty environments resulting in a risk for developmental delays. In the past children with disabilities entered a special school environment very different from the academic and social challenges of schools for typically developing children (Schoeman, 1998). All children are now required to follow

the same curriculum, although at a different pace and with adjustments. The success of school programmes therefore depends to a large extent on the readiness of learners when they enter the formal education system.

- School readiness implies that the learner is sufficiently equipped to cope with the academic and social demands of the school environment. As communicative competence is considered the basic academic skill (Billeaud, 1998), early communication-based programmes are of critical importance to equip children with effective communication skills and to sufficiently prepare them for the higher language functions of reading and writing. In this respect Rossetti (1996) states that ECI increases the possibility for a child to be included in the regular education system.
- Most studies on the effectiveness of preschool programmes for children living in poverty indicate short-term and long-term gains, some with positive effects continuing into adolescence. A critical factor determining outcome seems to be the duration of the programme, i.e. the longer the child is enrolled in a programme, the better the results for the child (Boocock, 1995; Bryant & Maxwell, 1997; See also Chapter 2, Figure II.IV). This fact strongly presents a case for preschool programmes to start as early as possible in a child's life, again emphasizing the indispensable contribution of ECI to the education system facing the challenge to successfully include all learners both academically and socially.
- In an overview of various international research projects, Boocock (1995) concluded that preschool experience helps children living in poverty to narrow, but not close, the achievement gap separating them from more advantaged children. Research evidence also suggests that maternal employment and reliance on childcare do not harm children, even in very young ones, and may yield benefits if the childcare is of good quality (Boocock, 1995). The finding that there may always be an achievement gap between children living in poverty and their peers from advantaged environments, seem to be the strongest motivation for the development of good quality early childhood programmes. These programmes have the

potential to benefit children and if not for the programmes, the achievement gap may widen.

- EI has proven to be cost-effective to the educational system. Rossetti (1996) provides evidence from various studies that early preschool programmes result in long-term savings, as children who received EI require less remedial services. Studies in the USA indicated that every dollar spent on preschool intervention saves from \$3 to \$6 dollars later (Rossetti, 1996).
- In an international review of special needs education carried out by UNESCO (1995), participating countries identified early intervention as one of the main issues to consider for the future development of special education in their contexts. This implies that EI is worldwide being acknowledged as a starting point of the education system for children with special needs.

The inclusion of children with special education needs can therefore already be implemented before they enter formal education if they were exposed to early intervention programmes. The advantage is that inclusion into the mainstream of education and society can be achieved earlier and therefore more successfully than in the event of a child with disabilities only being included at the point of entrance to formal education (McConkey, 1995b; Saleh 1996). The successful implementation of these ECI strategies, depends on careful planning guided by valid data, generated by a research tool capable of complying with research needs. In order to support the different preschool programmes and children with disabilities entering the formal education system, the database approach to ECI research can offer epidemiological and other types of data required by the service provider.

If ECI is the starting point of educational services to infants with disabilities and those who are at risk for developmental delays, the ideal, as stated in USA legislation (Rossetti, 1996), of providing comprehensive, coordinated, multidisciplinary, family centered services throughout the child's life, can be achieved (ASHA, 1989). Special needs education should therefore be seen in the

broader perspective of preparing infants at-risk and those with disabilities to be fully integrated in society from as early in their lives as possible.

The role of ECI can therefore not only be limited to providing collaborative services in health and educational contexts. The long-term perspective of infants with disabilities needs to be considered as reforms in the social and vocational sectors of society which have opened new opportunities for people with disabilities to participate in community life. (WHO, 1994).

3.4 CURRENT VIEWS ON REHABILITATION OF PEOPLE WITH DISABILITIES

In order to develop strategies to enhance comprehensive ECI services in South Africa the current approaches regarding the rehabilitation of people with disabilities pose certain challenges and opportunities for ECI.

3.4.1 Abandoning the Medical Model of Disability

The concept of rehabilitation for people with disabilities has undergone major changes in recent years, internationally and in South Africa. There has been a move away from the medical model of disability with its emphasis on the nature of the impairment and the result that disability was mainly viewed as a medical and welfare concern (WHO, 1994). In the past people with disabilities received medical and rehabilitative care as well as welfare grants, but less attention was given to the fact that they were increasingly isolated from the mainstream of society, often from a very young age.

Long-term institution-based rehabilitation services, even though equipped with state of the art technologies and scientifically based rehabilitation and education programmes, resulted in isolating people with disabilities from their families,

peers and society. The effect on the community was that people with disabilities were invisible, public awareness of disabilities were limited, negative attitudes towards people with disabilities were cultivated and false perceptions, such as that professionals only are responsible for people with disabilities, were created. When people with disabilities are not seen to participate in and contribute to community life, they are regarded as a burden on society (Mpofu, 1996; WHO, 1994).

The result of past views and practices was that people with disabilities were economically unproductive and largely excluded from active participation in decisions about themselves and policy formulation. Institution-based rehabilitation services remained exclusive and could never sufficiently provide in the needs of people in developing countries where the incidence of disability is on the increase as a result of social factors often overlooked by rehabilitation practices of the past.

The move away from institutionalized care and the subsequent isolation from society, the role of families in taking responsibility for the care of their young children with disabilities and the role of EI in recognizing the potential of infants with disabilities (Robinson, 1997), resulted in a new era of improved quality of life for people with disabilities and their families. EI provides the essential link of improved quality of life for people with disabilities from birth onwards. The early integration of infants with disabilities and their families into their local communities is now widely advocated as it is one of the predictors of successful integration later in life (McConkey, 1995b). The role of EI in the current approach to the rehabilitation of people with disabilities is therefore recognized and should now be applied to the South African context. One of the challenges for the development of ECI in South Africa is the increase of infants with disabilities and the causal factors.

3.4.2 Increase of Disability in Developing Countries

Apart from medical factors such as the HIV/AIDS epidemic in South Africa and increasing the number of infants, children and adults with diseases and disabilities (Bobat, *et al.*, 1999), there are also social factors that increase the prevalence of disability. Social factors responsible for the increase of disability in developing countries such as South Africa pertain to violence, war, crime, poverty, unhealthy lifestyles, natural disasters, accidents, especially transport related accidents and lack of public awareness on the prevention and treatment of disability (*White Paper on Integrated National Disability Strategy*, 1997).

The concept of double risk relating to people living in poverty as described by Kaplan-Sanoff, *et al.* (1991), Lequerica (1997), van der Merwe (1999) and described earlier in this chapter, can be useful in explaining the increase of disabilities in developing countries such as South Africa. The consequences of acquired disabilities are more severe for those with limited resources than for those with means to prevent trauma or acquired conditions from deteriorating into severe developmental delays and behaviour problems. As most of the factors relating to the social causes of disability apply to the South African context it directly impacts on the communication-based service provision to people with acquired communication disabilities.

The need for changes in rehabilitation practices is emphasized by the increase of disability in infants and children as a result of accidents, abuse and neglect, especially those from families living in poverty (Mowder, 1997). Among the population of individuals with acquired communication disabilities are infants who present with unique problems which can be distinguished from infants with developmental disabilities. Only recently has research and clinical interest been focused upon the youngest age group with traumatic brain injury (Sellars, Vegter & Ellerbusch, 1997). Studies have shown that the very young brain is to a certain extent adaptable to early focal injuries such as stroke or penetrating injuries.

More diffuse injuries, however, have a profound effect on later development and are described as a domino effect of the sequelae of the trauma. As the continuous development of skills depend upon earlier foundational skills their prognosis for rehabilitation is generally poor (Sellars, *et al.*, 1997). These young children grow up with severe disabilities, which have the potential to become handicaps if not managed by a comprehensive service delivery strategy.

The conditions surrounding neglect and abuse of children is thought to start already in infancy. Lester (1992) describes infant behaviour as part of a communication system within the caregiving environment. The ability of the infant to communicate effectively and the ability of the parents to interpret the infant's cues effectively and provide appropriate caregiving will determine the success of the system. Particular risk situations can arise when mothers fail to correctly interpret the stress signals and crying patterns of their infants. Infants who were prenatally exposed to cocaine are easily excitable as a result of the neurobehavioural effect of cocaine on brain functioning. These infants can be perceived by their mothers as difficult to care for and can be at greater risk for abuse. In contrast, infants with intra-uterine growth retardation and fetal malnutrition (also an effect of prenatal cocaine exposure and poor nutritional status of their mothers) tend to be passive as a result of depressed neurobehavioural functioning. Depressed infants therefore appear to be undemanding and not in need of attention, but may be at greater risk for neglect (Lester, 1992). As the abuse of cocaine is on the increase worldwide, the infants born from mothers using cocaine and at risk for the detrimental sequelae, will also increase.

The challenges of increased populations of infants, children and adults with disabilities, most of who could have been be prevented, are vast and new theoretical models and intervention approaches are necessary.

3.4.3 Adopting a Social Model of Disability

Currently there is a strong move towards a social model of disability with the emphasis on human rights and development, resulting in challenging rehabilitation practices of the past and long-term outcomes of treatment. The social model implies that medical and educational services for people with disabilities are not sufficient if vocational and social concerns are not addressed (*White Paper on an Integrated National Disability Strategy, 1997*).

In response to these challenges the strategy of community-based rehabilitation was developed, aiming to integrate rehabilitation endeavors with health and development activities at the community level. Community-based rehabilitation is characterized by the active role of people with disabilities, their families and the community in the rehabilitation process. In community-based rehabilitation, knowledge and skills for the basic training of people with disabilities are transferred to adults with disabilities themselves, to their families and to community members and professionals do not dominate the process (WHO, 1994).

Since the families of young children with disabilities often face isolation from their communities (McConkey, 1995b), the principle of community-based rehabilitation of greater involvement of the community in the family and increased participation of the family in community life, can have positive outcomes for ECI. Community-based rehabilitation services therefore offer strategies to provide ECI services to the increased population of young at-risk for communication disorders and their families living in developing contexts in South Africa (Fair & Louw, 1999).

3.4.4 Community-Based Rehabilitation

The process of community-based rehabilitation, driven by people living in the community, whether in rural, semi-urban or inner-city contexts, can include the following operational strategies:

- A community committee promotes the removal of physical and attitudinal barriers and ensures opportunities for people with disabilities to participate in school, work, leisure, social, and political activities within the community.
- A community rehabilitation worker engages people with disabilities (ranging from young to old) and their families in rehabilitation activities.
- Children with disabilities attend the local school.
- Community members provide local vocational training for adults with disabilities.
- Community support groups assist families in the care and respite care of their young children or adult members with disabilities.
- Community initiatives are supported by referral services within the health, education, labour and social sectors.

(Mpfu, 1997; Werner, 1988; WHO, 1990; WHO, 1994)

The aim of all the community-based rehabilitation strategies mentioned above is to achieve social integration and independence for people with disabilities. If social integration is the goal, the long-term outcomes envisaged by the various professional rehabilitation efforts should pursue the same objectives. The specific role of professionals, such as early communication interventionists, in community-based rehabilitation is multifaceted and extends far beyond the primary professional functions of assessment, treatment and counseling.

3.4.5 Expansion of the Role of the Early Communication Interventionist

Professionals operating in community-based rehabilitation services are seen as resourceful people who act as facilitators, collaborators, interventionists, provide training and support the community health workers (McConkey, 1995a; WHO, 1994). Although community work has already been described as a professional function in communication pathology, the social model now used in community-based rehabilitation demands adaptations to new theoretical frameworks and practices. The importance of research as a professional function to guide these efforts becomes evident. Participatory action research as a tool for sustainable social development is particularly relevant in community-based rehabilitation activities as one of the outcomes is to improve the quality of life for those who participate in the research (Schurink, 1998).

Figure III.I illustrates that the concept of community-based rehabilitation ensures that due attention is awarded to the whole spectrum of professional functions of the speech-language therapist and audiologist as described by Uys and Hugo (1990), which applies to the early communication interventionist as well.

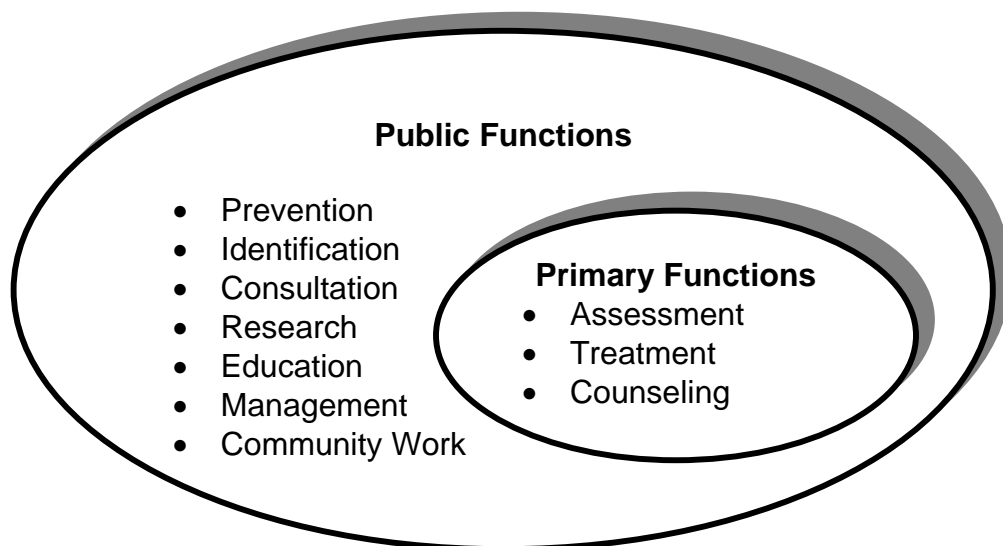


Figure III.I ECI professional functions in relation to community-based rehabilitation

Based on Uys & Hugo, 1990.

When analyzing the ten professional functions as depicted in Figure III.1, it appears that a distinction can be made between primary functions which relate to services aimed at specific clients and functions with a broader focus, hence public functions. Public functions relate to professional activities performed in collaboration with communities, the different public sectors and the multi-professional fraternity. It is the public functions of early communication interventionists that permit role expansion and release, the essence of transdisciplinary work.

An example of the application of the public professional functions is an operational strategy used by UNICEF which entails a three-phase process of assessment of the situation, analysis of the cause of the problem and action taken based on the analysis and available resources (Patel, 1993). Community work therefore implies collaborative and consultative research efforts to assess a situation and analyze the causes of problems. In order to improve the situation, effective action is taken in the collaborative and transdisciplinary management of programmes to prevent and identify problems, educate community health workers and families and eventually assess, treat and counsel individuals with disabilities.

Werner (1988), in a training manual for community health workers, rehabilitation workers and families, views the role of professionals as providers of information, explanations, suggestions, examples and ideas and not to tell communities and parents what to do. By means of explaining basic principles and motivating actions, the scientific underpinnings of rehabilitation can be conveyed to communities. The effectiveness of a rehabilitation programme will depend on a management approach, which allows continuity of the three-phase cycle, ensuring re-assessment and adjustments to the programme so that the needs of infants with disabilities and their families are adequately met.

It is therefore clear that community-based rehabilitation provides an opportunity for the whole range of ECI professional functions to be practiced, demonstrating the profession's potential to effectively adapt to the diverse demands of a community-based rehabilitation approach.

3.4.6 Challenges of Effective Community-Based Rehabilitation

Effective community-based rehabilitation is a complex process as the needs and stresses of families living in poverty usually exceed the developmental needs of their children with disabilities (Baxter & Kahn, 1996; Lequerica, 1997). A study by Baxter & Kahn (1996) illustrates the diverse demands exerted on rehabilitation professionals participating in an inner-city EI programme in the USA. The study also highlights the importance of research as a vital component of community-based rehabilitation since the notion to focus on strengths and needs of families in EI often leaves the specific needs of families and communities unqualified.

The results of the study (Baxter & Kahn, 1996) indicated that the needs identified by the families with infants at risk or with disabilities were very similar and in order of importance, related to food needs, housing, transportation, medical needs, needs for the child and caregiver's needs for personal time. The developmental needs of the infant with disabilities were therefore not the most important needs perceived by the families.

The families further indicated that their limited resources were the major cause of their stresses. There can, however, be different contributors of stress when dealing with families from various backgrounds. McDowell, *et al.* (1995) found in a study conducted in South Carolina that declines in financial status were the major stressors for black families. White families whose children had the same developmental delays as the black families experienced the slow developmental progress of their child as the major source of stress. Baxter and Kahn (1996) concluded that chronic life stressors, rather than discrete life events contribute to

high levels of stress in families living in poverty. These findings also confirm Guralnick's conceptual model of early development and risk factors in which information needs, interpersonal and family distress, resource needs and confidence threats are identified as potential stressors for families with a child with a disability (Guralnick, 1997).

Another problem area that seems to be widespread in community-based intervention is the poor attendance of clients in intervention programmes. In a study conducted in Chicago the children's attendance of therapy was more consistent if the families received financial and social support. Another reason for consistent attendance in therapy related to the severity of the child's disability. If the parents perceived the child's problem as severe, attendance was more consistent. Other factors that influenced therapy attendance were the number of siblings in the family, which meant that the mother had additional childcare burdens. The last factor to significantly influence therapy attendance was the father's educational level. The higher the father's education, the better he recognized the importance of intervention and the stronger he supported the mother in attending therapy sessions (Kuchler-O'Shea, Kritikos & Kahn, 1999).

A similar study conducted in South Africa indicated that therapy attendance also relates to financial factors (Bulmer, 1999). The study was conducted at a clinic for children with cerebral palsy at the Chris Hani Baragwanath Hospital serving a large peri-urban community. The parents indicated that the main reason for terminating therapy was the lack of funds for transport to attend the clinic. The parents in the South African study did not receive financial assistance although the therapy sessions were fully subsidized. Once more, the first barrier in the intervention process was the financial status of the family and not external factors such as the availability of transport.

The examples from the different studies reviewed serve to illustrate the necessity of a comprehensive systems approach to ECI service delivery in community-based rehabilitation and in dealing with families living in poverty.

In conclusion, community-based rehabilitation provides a context for the development ECI services in developing communities and can be effective to achieve the following:

- The continuum between disability prevention and rehabilitation is seen as an attainable goal and not only as a theoretical ideal. Community-based rehabilitation strongly emphasizes the prevention of disability as a long-term vision and as a viable answer to the limited resources of developing countries. The promotion of development, health and safety as early as possible in a child's life and the earliest possible starting point of intervention for infants at risk and with disabilities are ECI strategies already proven to be effective to prevent disabilities or at least their sequelae (Rossetti, 1996). As prevention is regarded as the highest form of professionalism (Downs, 1991) its pursuit should be the focus of any rehabilitation programme.
- Community-based rehabilitation expands the narrow rehabilitation practices of the past to include all public sectors relating to people with disabilities. As the site of rehabilitation is the community itself, the co-ordination of medical, educational, vocational and social rehabilitation services to reach all people with disabilities is much more attainable than in the case of the isolation people experience in institution-based or hospital-based rehabilitation services.
- In a community-based rehabilitation approach people with disabilities are challenged to be active in their own rehabilitation and not to be passive recipients of services. The result is that greater participation of people with disabilities improves their motivation and ensures more effective rehabilitation. As people with disabilities are not removed from their communities, the effects of rehabilitation are highly visible and public

awareness is raised resulting in the community becoming educated about disability which, in turn, contributes to the development of communities.

As stated earlier, the long-term goals of service provision are the prevention of communication disorders and delivering of services to the *whole* population of people with communication disabilities. It is clear that the community-based rehabilitation approach offers basic principles and operational strategies which can be used to adapt ECI in the South African context.

The challenges to make ECI services available to all who need it in South Africa is great. The current changes in health care, education for children with disabilities and new approaches in the rehabilitation for people with disabilities provide strategies such as those offered by primary health care, preschool programmes for school readiness and community-based rehabilitation services to provide relevant ECI services to the different communities in South Africa. The expansion of ECI services to all the communities in South Africa, implies changes in the market place (Hugo, 1998). The dire need for national and local data to direct the planning of ECI services and policy development demands an investigation of available data to obtain a profile of clients requiring ECI services in order to provide guidelines for the empirical research of the current study.

3.5 PROFILE OF CLIENTS REQUIRING ECI IN SOUTH AFRICA

Although people with communication disorders have always been at least 10% of the total population of South Africa (Uys & Hugo, 1997) the caseload has now increased and the profile of clients have changed drastically in the past decade. As a result of poor recognition of the profession of speech-language therapy in general and ECI in specific, as well as limited service delivery, a detailed profile of the South African population of infants with communication disorders remains largely unknown and indicates the crucial need for empirical survey studies.

In an attempt to answer the question relating to the characteristics of clients requiring ECI, a literature survey was done to provide broad features of the population, which will serve as a basis for the essential components of a computer database for ECI to be developed in the empirical study.

In an overview of articles by Aron (1991), Hugo (1998), Pickering, *et al.* (1998), Tuomi (1994), Uys (1993), Uys and Hugo (1997) and data released by Central Statistical Services (1997a; 1997b; 1997c) the population of young children with communication disorders and their families in South Africa will be described in terms of their different home languages and cultures, the literacy rate and ages of their parents and the different risk conditions to be found in the infants.

3.5.1 Home languages and cultures of ECI clients

The client and the family requiring ECI in South Africa may speak one or more of the 11 official languages of the country, or depending on the region, may speak a minor language or a dialect of a language. Table 3.1 was compiled to provide the latest percentage distribution of home language in SA (Central Statistical Services, 1997b). According to Table 3.1, isiZulu (22,4%) is the most common home language in the country, while only 9,1% of South Africans speak English as their home language.

The distribution of home languages also provide a profile of the cultural diversity of families with young children requiring ECI services. Culture can be defined as mental programming which represents patterns of thinking, feeling and potential acting and learned throughout a person's life and can be distinguished from a person's personality and human nature which is universal and the shared inheritance of all people (Hofstede, 1997). Culture signifies a person's adherence to a specific group of people or a category and manifest in shared symbols, heroes, rituals and values and ECI professionals not sharing the same culture as their clients, must adopt culturally sensitive practices (Hofstede, 1997; Jager,

Table 3.1 Percentage Distribution of Home Languages in South Africa

Language	% Speakers
1. isiZulu	22,4%
2. isiXhosa	17,5%
3. Afrikaans	15,1%
4. Sepedi	9,8%
5. English	9,1%
6. Setswana	7,2%
7. Sesotho	6,9%
8. Xitsonga	4,2%
9. siSwati	2,6%
10. Tshivenda	1,7%
11. isiNdebele	1,5%
12 Other	1,8%
13. Afrikaans and English	0,2%
14. Sign Language	Unknown

Source: Central Statistical Services, 1997b

1994; Seeff & Bortz, 1994). Since the manifestations of culture are visible in cultural practices, but the cultural meanings are invisible by outsiders (Hofstede, 1997), it is exactly in the interpretation of cultural practices or behaviours that miscommunications between clients and professionals of different cultural groups can arise. It depends on ECI clinicians to be knowledgeable regarding the views families hold about communication disorders and causes in their young children and the role of indigenous healers and their views on the causes and treatment of communication disorders in South Africa (Platsky & Girson, 1993). Insight in the culturally determined beliefs of the ECI clients and those of the communities they represent can enhance effective communication, mutual respect and contextual service delivery.

Schuck and Bucy (1997) provide an example of the utilization of family rituals in early intervention. Family rituals are repetitious, highly valued, meaningful family activities that transmit a family's cultural values and attitudes. The benefits of

rituals for learning in young children are that they serve as powerful organizers of behaviour that provide children and their families with a sense of stability, identity and a means of learning about culture and socialization both within and outside the family. Early interventionists can use their understanding of a family's culture and rituals to assist families in creating and adapting functional rituals to include infants and toddlers with disabilities. These rituals act as meaningful and enjoyable routines, which are regarded as the basis for early learning (Ratner, Parker & Gardner, 1993). The clinician's cultural sensitivity to affirm a family's rituals can therefore greatly enhance ECI in South Africa, an approach that depends on family participation. It is, however, not only the cultural diversity of the different communities in South Africa which must be considered in ECI.

Although multi-lingualism is a sociolinguistic reality in South Africa (See Table 3.1), there is a tendency towards uni-lingualism, as English dominates the mass media and often seem to be the common denominator when people of different language groups interact. The implication is that the other languages can be marginalized, especially those languages with poorly developed written forms (Alexander, 1996). Although the *National Language Plan for South Africa* (Alexander, 1996) aims promote the view that multi-lingualism is a resource and not a problem, it poses certain challenges in ECI service provision:

- ECI clinicians belonging to a body of professionals of whom to date most have mastered only English and Afrikaans treat clients and their families from various linguistic backgrounds.
- Language incompatibility is a communication barrier shared by all health professions, but for the ECI clinician efficient use of language is both the medium of communication as well as the eventual goal of the intervention (Hugo, 1998). This implies that other health professionals may be able to render services with the help of an interpreter, but assessment and treatment of clients with language disorders is not possible when the clinician is not a proficient speaker of the client's language.

- Multi-lingualism occurs on the macro level as well as on the micro level. As a result of urbanization, it often occurs that various languages are spoken within the same family and within a particular community. The situation frequently appears where young children attend childcare facilities, preschools and schools where the medium of teaching is different from their home language (or home languages), which poses a risk for learning difficulties, especially for those already at risk as a result of environmental conditions such as poverty.

Cultural and linguistic diversity is characteristic of ECI clients and their families in South Africa. At the centre of the language debate in South Africa is the question of child and adult literacy (Alexander, 1996) which leads to the following characteristic which relates to the families of the young children requiring ECI services.

3.5.2 The literacy rate of families requiring ECI services

As a result of unequal education opportunities provided in the 11 official and other languages spoken in South Africa, many South Africans, especially those from the disadvantaged rural communities, are illiterate. According to figures provided by the Central Statistical Services (1997b) the literacy rate for people over 15 years and older is 82.16%. The literacy rate refers to the percentage of persons who are able to read, write and speak their home language. The mean years of schooling of persons 25 years and older for the total SA population are 6,86 years (Central Statistical Services, 1997b).

As a result of poverty, low education and literacy levels many families cannot provide the necessary support for emergent literacy skills of their children. The result is that these children's language and literacy levels differ from their peers when they enter school, contributing to learning difficulties. The facilitation of emergent literacy skills in young children at risk for communication disorders and school failure while many of their parents have limited literacy skills themselves,

poses great challenges for an effective parent-centered approach in ECI and holds implications for parent training and providing them with information.

Another important characteristic of ECI clients' families relates to the age of the parents.

3.5.3 Age of parents of young children requiring ECI

Since the emergence of ECI a direct relationship with the families of infants were formed and the involvement of families in ECI are now regarded as a determiner of successful services (Rossetti, 1996). A specific group of parents representing an age group, whose unique needs have been highlighted in recent years, are adolescent mothers. Adolescent mothers have an increased prevalence of infants born at risk and with disabilities, even in the event of adequate prenatal care (Rossetti, 1996). The group of mothers in the USA most at risk for poor outcomes of their infants are young, single, undereducated, poor, black mothers with a history of drug and/or alcohol abuse (Rossetti, 1998). Although the specific profile of mothers most at-risk in South Africa is not known, the prevalence of adolescent pregnancies is high (Department of Health, 1997), indicating that this age group should be targeted in ECI, on the levels of primary and secondary prevention. With the alarming spread of HIV/AIDS, now recognized as an epidemic in South Africa (SABC, 1999), this age group has already been targeted in the *National Adolescent Sexual Health Initiative* (NASHI) for sexual health education programmes (Strachan, 1999). World-wide collaborative research efforts are now directed at mother-to-child transmission of the AIDS virus and how to decrease the incidence of infants born with the virus (Stucky, 1999).

This implies that ECI should be involved in collaborative efforts to prevent adolescent pregnancies and harmful behaviours of the parents that can negatively impact on them as well as on the health and development of their

children. In order to be effective, the age groups to be targeted are girls and boys in their pre-adolescent years and older.

The last characteristic of ECI clients in South Africa to be discussed relates to the different risk conditions for communication disorders to be expected.

3.5.4 Risks for communication disorders in ECI clients in South Africa

Knowledge about the nature and prevalence of communication disorders among young children from different communities serves to guide clinicians, policy makers and researchers, but also indicate how much research is still required in South Africa.

The illuminating concept proposed by Rossetti (1996) to utilize infant mortality rates (IMR) to determine who are ECI clients can be helpful to identify the nature and prevalence of different communication disorders of ECI clients in South Africa. According to Rossetti (1996) it is important for the ECI clinician to be familiar with IMR, its causes and contributing factors, since those infants who survive these conditions that cause death in some infants, are at risk for developmental delays.

Tables 3.2 and 3.3 provide information on the causes of death in infants in South Africa. Table 3.2 provides information about the causes of death in order of importance during the first year of life while Table 3.3 provides details of the leading cause of death, i.e. conditions originating in the perinatal period.

Table 3.2 Recorded causes of infant deaths, 0-12 months during 1994 in South Africa

Recorded Cause of Death	% Infant Deaths	# Infant Deaths
1. Conditions originating in the perinatal period, e.g. low birth weight	43.85%	7 600
2. Intestinal infectious diseases	14.74%	2 556
3. Symptoms, signs and ill-defined conditions	10.34%	1 792
4. Diseases of the lower respiratory system	9.38%	1 625
5. Congenital anomalies	5.64%	977
6. All unnatural causes	4.44%	769
7. Nutritional deficiencies, e.g. kwashiorkor and marasmus	2.72%	471
8. Endocrine and metabolic diseases (HIV/AIDS included)	2.09%	362
9. Other bacterial diseases	2.04%	354
10. Diseases of the nervous system, e.g. meningitis, cerebral palsy, epilepsy	1.59%	275
11. SIDS (Sudden infant death syndrome)	1%	173
12. Venereal diseases	0.78%	135
13. Tuberculosis	0.42%	73
14. Viral diseases	0.24%	42
15. Diseases of the upper respiratory tract	0.22%	38
16. Diseases of pulmonary circulation and other forms of heart disease	0.16%	28
17. Diseases of the urinary system	0.12%	20
18. Malignant and benign neoplasm	0.10%	18
19. Diseases of the digestive system	0.06%	11
20. Diseases of blood and blood-forming organs	0.03%	6
21. Disease of the ear and mastoid process	0.02%	4
22. Other infectious and parasitic diseases	0.02%	3
Total number of recorded deaths	100%	17 332

Source: Central Statistical Services, 1997c.

The statistical information of the two tables was extracted from the *Death Register Form* and *Medical Certificate* which are submitted to the Department of Home Affairs and the causes of death were classified according to the *ICD-10 (International Statistical Classification of Diseases and Health Problems)* by the SA Central Statistical Service (1996; 1997c).

According to Table 3.2 the predominant cause of death in infants during their first year of life in South Africa is conditions originating in the perinatal period, of which prematurity and low birth weight are the most important causes (See also Table 3.3). The figure of 43.85% overshadows all the other 21 causes of identified infant death and confirms the well known fact that birth weight is the most important predictor of infant survival (Rossetti, 1996).

When applying Rossetti's argument (1996) to these statistics it follows that if so many infants die of perinatal conditions, those who survive these conditions are at risk for developmental delays and should form the majority of the ECI caseload in South Africa. It is clear that further research is necessary to determine who are the infants presently receiving ECI in South Africa and if the caseload mirror the conditions set out in Tables 3.2 and 3.3.

Upon closer inspection of Table 3.2 it appears that many of these conditions are preventable and if not, can be successfully treated and should not be the cause of death. An example of prevention through immunization is NR 14 where 42 infants died of viral diseases such as chicken pox, herpes simplex and measles. NR 21 also indicates a preventable cause of death as 4 infants died of suppurative otitis media. The IMR in South Africa is calculated at 52.8 per 1000 live births (WHO, 1996) which ranks low in comparison with Western countries who have figures of below 10 deaths per 1000 live births (Rossetti, 1998).

According to Table 3.2 intestinal infectious diseases and diseases of the lower respiratory system (such as bronchitis, bronchiolitis, pneumonia, broncho-pneumonia, influenza and asthma) both rank very high as causes of death. Some of these diseases relate to the first level of health care service, i.e. the provision of basic needs such as safe drinking water, basic housing and the provision of adequate food (See Chapter 1, 1.2.5). Evidence of the lack of basic needs is also indicated in the high ranking of nutritional deficiencies as a cause for infant death. This figure is alarming as the expectation is that breast feeding should be

more successful during the first year of life as it provides an infant with adequate nutrition. These statistics imply that the South Africa infant population is extremely vulnerable for diseases that can be cured at primary health care level if treated in the beginning stages of the disease. If so many infants die of these diseases it indicates the heavy burden that secondary health care have to bear.

In terms of the ECI caseload in South Africa it appears that infants with low birth weight and prematurity should be the majority of clients. The next largest group of ECI clients should be those with infectious and lower respiratory system diseases as they are also at environmental risk and most likely to be hospitalized and living in poverty. The next largest group of ECI clients are infants with congenital anomalies, indicating established risk conditions. The following group are those exposed to trauma and accidents which could relate to neglect and abuse resulting in traumatic brain injury (Sellars, *et al.*, 1997).

Table 3.3 Perinatal conditions recorded as causes of death during 1994 in South Africa

Perinatal condition	% Deaths	# of Deaths
1. Short gestation and low birth weight	46.99%	3 571
2. Respiratory distress syndrome	13.46%	1 022
3. Other respiratory conditions of the fetus and newborn	9.87%	750
4. Intra-uterine hypoxia and birth asphyxia	7.03%	534
5. Ill-defined conditions	6.71 %	509
6. Infections specific to the perinatal period	5.47%	416
7. Placenta, cord and membrane complications	3.03%	230
8. Birth trauma	2.22%	169
9. Perinatal disorders of the digestive system	1.12%	85
10. Complications of labour	0.84%	63
11. Maternal conditions unrelated to present pregnancy	0.8%	61
12. Perinatal jaundice	0.7%	53
13. Fetal and neonatal haemorrhage	0.65%	49
14. Haematological disorders	0.29%	22
15. Maternal complications of pregnancy	0.25%	19
16. Conditions involving integument and temperature regulation	0.2%	15
17. Endocrine and metabolic disturbances	0.17%	13
18. Haemolytic disease of the fetus or newborn	0.16%	12
19. Long gestation and high birth weight	0.04%	3
Total	100%	7 600

Source: Central Statistical Services, 1997c.

Tables 3.2 and 3.3 therefore provide guidelines for research and clinical purposes in the local context. Both tables contain entries reflecting inaccuracies in the recording system, i.e. NR 3 in Table 3.2 and NR 5 in Table 3.4 which accounts for 10,34% and 6,71% of causes of death that could not be classified. The poor quality of South African vital registration data is well recognized in the health professions and efforts are now geared to improvements in the system (Wood & Jewkes, 1998).

According to Table 3.3 the leading cause of death in infants with prematurity and low birth weight is respiratory distress syndrome. Rossetti (1990a) provides USA statistics also indicating respiratory distress syndrome as the most important disease causing death in this population. The subsequent causes of death indicate conditions relating to, but not exclusively to low birth weight and prematurity. The importance of these perinatal conditions for ECI are that they negatively impact on infant health as well as on development and the developmental sequelae can be minimized if intervention already starts in the perinatal period.

The answer to the question of which communication disorders occur in clients requiring ECI services can therefore be answered by referring to IMR. The causes of infant death provide the different conditions resulting in developmental delays and communication disorders these infants are at-risk for.

It is also clear that ECI services are inseparable from collaboration with the health system, in particular neonatal intensive care units and primary health care services. The majority of infants in the ECI caseload should be infants with low birth weight and prematurity, i.e. graduates from the neonatal intensive care unit. The second largest group of infants who are at risk for developmental delays, are those infants dying of infectious diseases and diseases of the lower respiratory system (See Numbers 2 and 4 in Table 3.2), who also live in poverty. They are

the clients who will be identified at primary health care facilities and community-based rehabilitation services.

3.6 CONCLUSION

In order provide services to all the different communities in South Africa ECI can employ different strategies already utilized in the health system, education system and community-based services. The principles of primary health care, ECI programmes for preschoolers and community-based rehabilitation are compatible with ECI and provide strategies to serve the diverse populations of young children and their families requiring ECI services.

The discussion of the five aspects relating to the different characteristics of clients and their families requiring ECI services in South Africa served to present a profile indicating that clients represent:

- Diverse linguistic backgrounds and English is not a common language for all
- Diverse cultural traditions and the meaning of cultural practices are not always clear to outsiders
- Various levels of literacy and education, but a high prevalence of illiteracy
- Young parents in their teens who are of particular concern in ECI
- Different risks for communication disorders and the largest single group of clients requiring ECI are infants with low birth weight and prematurity, while the second largest group are represented in the population of infants who die of intestinal infectious diseases and diseases of the lower respiratory system and live in poverty.

The broad profile of the population at-risk for and with communication disorders indicates further identification of the population in order to reflect the unique needs of the diverse groups requiring ECI in South Africa. As stated by SASLHA

(Louw, 1997) further research is necessary to obtain recognition and to establish the field of ECI in South Africa.

The use of a computer database to store large amounts of information on infants and toddlers at risk for and with communication disorders and their families can contribute to a national data bank of those requiring ECI services.

The value of a national data bank can be demonstrated by Swedish long-term research projects employing large numbers of subjects. In a national survey, using data collected over the past 30 years Becker, Svensson & Källén (1998) found correlations between cleft palate and low birth weight in the subjects. The findings are valuable contributions to the field of cleft palate as these correlations were suspected for a period of time, but large numbers of subjects were required to obtain reliable data.

A computer database will not only provide data on large numbers of subjects, but can also contribute to a rich description of subjects if designed to collect comprehensive data. The use of a computer data base in research on infants and toddlers and their families requiring ECI in South Africa may therefore contribute to the dearth of detailed information on those who need services which can make a difference in the quality of their lives.

3.7 SUMMARY

The chapter describes the need for transformation of speech-language therapy and audiology services in South Africa and proposes the utilization of ECI as a key strategy to integrate the services into primary health care, inclusive education policies and community-based rehabilitation approaches. A broad profile of clients requiring ECI in South Africa revealed that the population displays characteristics of diverse linguistic, cultural and literacy backgrounds

and that the majority of clients requiring ECI are infants with low birth weight and prematurity and those suffering from diseases associated with poverty.