Assessment of the Availability and Accessibility of Rehabilitation Services in a rural district of South Africa

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Praise God from whom all blessings flow,

Praise Him all creatures here below,

Praise Him above ye heavenly host,

Praise Father, Son and Holy Ghost.

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Abstract

This research examines the availability and accessibility of rehabilitation services in South Africa from a health policy and systems perspective and uses the Capability Approach as the theoretical framework for the whole study. The key components of this research are: 1) rehabilitation policies 2) rehabilitation service capacity and 3) perspectives from people with disabilities as users of the service. My study employs both quantitative and qualitative designs to address the research questions. The policy component qualitatively examines the extent to which South Africa's policies facilitate access to rehabilitation services in the public sector through a review of policies for the period 1994-2019. The rehabilitation service capacity complements the policy review by establishing the readiness of district hospitals in a rural district of South Africa to provide these services using an adapted health facility assessment tool. The health facility assessment includes a quantitative descriptive assessment of the infrastructural accessibility of the health facility, and the availability of assistive devices, equipment, and the rehabilitation workforce. The combined findings from the policy review and the service capacity then inform a qualitative description of the implementation gap. In order to understand the contributing factors to this implementation gap, interviews with health facility rehabilitation managers were conducted to explore these further. Finally, interviews with people with physical disabilities uncover the barriers and facilitators to accessing the rehabilitation services in the included district hospitals. The findings point to important gaps in rehabilitation services in the district across all components of the services. Further, these supply-side gaps reinforce each other and interact with prevailing demand-side barriers to constrain access to rehabilitation services for people with physical disabilities. My study makes a theoretical contribution by expanding the Capability Framework, and then concludes with key recommendations.

Overview of the Thesis

This research aims to inform the implementation of South Africa's universal health coverage plan by examining existing rehabilitation services in OR Tambo district, a rural district in South Africa.

These rehabilitation services include physiotherapy, occupational therapy, speech and language therapy, audiology and prosthetic and orthotic services.

This thesis contains nine chapters. Chapter one will provide a background to rehabilitation services as they relate to the global and South African contexts and will conclude with the research questions, objectives and theoretical framework underpinning this research, the Capability Approach. Chapter three will introduce the study site, OR Tambo district, which is situated in the Eastern Cape Province of South Africa.

This thesis has four empirical chapters. Each of these chapters details its own methodology, results and discussion. Chapter four is a review of rehabilitation policies in South Africa. Chapter five assesses rehabilitation capacity in district hospitals in OR Tambo district in order to provide a description of the implementation gap. So as to provide insights to explain this implementation gap at the level of the health facility, chapter six will explore the contributing factors from the perspectives of health facility-level rehabilitation managers. Chapters four, five and six, which all relate to the supply-side of rehabilitation services access, will then be complemented by user perspectives in chapter seven to uncover demand-side factors related to access. Chapter seven will explore barriers and facilitators to accessing rehabilitation services in OR Tambo district from the perspectives of people with physical disabilities. Chapter eight will integrate the findings from all four empirical chapters within Amartya Sen's Capability Approach and recommend an extension to the framework on the basis of these findings. Finally, chapter nine will conclude this research.

Chapter 1: Background

Rehabilitation services are defined as interventions targeted at individuals with impairments, and intended to optimise individual functioning and reduce disability (WHO, 2017c). The main purpose of rehabilitation is to enable individuals, regardless of their age, to live, learn and earn to their best potential (WHO, 2017c). Rehabilitation services are provided by skilled rehabilitation providers including physiotherapists, occupational therapists, speech and language therapists, audiologists, orthotists and prosthetists, rehabilitation physicians and rehabilitation nurses (WHO, 2018a). The provision of rehabilitation services also includes the provision of assistive devices (WHO, 2017c). Assistive devices are products which facilitate the functioning of individuals where function has been limited by internal factors such as impairments, or external factors such as the lack of adaptations in the places where people live and work. Such products may be simple such as glasses, basic wheelchairs or hearing aids, or more complex such as communication software and personal emergency alarm systems (WHO, 2016; ATScale, 2020).

1.1 Global

High needs for Rehabilitation

Recent data estimates that 2.4 billion individuals who could benefit from rehabilitation services do not have access to these services (Cieza *et al.*, 2020). This equates to 1 in 3 people globally. The need for rehabilitation services increased by 63% between 1990 and 2019 (Cieza *et al.*, 2020), and is expected to continue rising (Jesus *et al.*, 2019; Jesus, Landry, Brooks, *et al.*, 2020). The reasons for this include aging populations because of the documented increase in impairments with age, and the rise in chronic conditions which leave individuals with reduced functioning, (WHO, 2020). Rehabilitation presents the opportunity to address these needs by assisting individuals to improve their capabilities in seeing, hearing, mobility, communication, self-care and cognition. Rehabilitation also addresses the external environments of individuals by facilitating the adaptation of the environments in order to optimise what individuals can do for themselves, such as through assistive technology like portable ramps (WHO, 2016). Despite the potential benefits of

rehabilitation, only 1 in 10 people who require assistive technology have access to it (Rohwerder, 2018; WHO, 2018b). A systematic review found that the coverage of assistive devices for people with disabilities was low at 0-66% across low- and middle-income (LMIC) settings (Bright *et al.*, 2018). The wide variation in availability likely reflects actual differences in access but also differences in methodologies for examining access. This supports the evidence that rehabilitation needs remain largely unmet.

A key factor which contributes to the unmet need for rehabilitation services is the rehabilitation workforce. Globally there is a mismatch between the need for rehabilitation services and the supply of rehabilitation services. In LMIC settings, this is evident in the low density of skilled rehabilitation providers (WHO, 2017c; Magnusson, Sweeney and Landry, 2019). In high-income (HIC) settings, this mismatch is evident as the supply not being associated with need but rather with population size, gross national product and healthcare expenditure as a proportion of GDP (Jesus, Landry, Hoenig, Dussault, *et al.*, 2020). This reflects inequities in the availability of rehabilitation services between HIC settings and LMICs.

At a regional level, Africa has a comparatively low density of skilled rehabilitation, with estimates of less than one rehabilitation provider per one million population for occupational therapy and prosthetic and orthotics services (WHO, 2017b). This may be explained by the health priorities in previous decades, where efforts were directed towards controlling communicable disease mortality, with little attention given to morbidity and its impact on the functioning of individuals. It is also likely that the African region has relatively limited resources compared to other regions. A lack of resources hinders the development of a capable rehabilitation workforce since training, funded employment, equipment and data systems for planning and monitoring all require considerable resource investment (Jesus *et al.*, 2017; Morris *et al.*, 2019).

Consequences of Rehabilitation Service Unavailability

Failing to provide rehabilitation services has negative consequences for individuals, the state and society at large. Firstly, when individuals who could benefit from rehabilitation services do not access these services, this results in persisting deficits in the ability to function even when they have been deemed medically stable (Dulhanty *et al.*, 2019) . This leads to reduced participation and inclusion in family and community life. For example, an individual who has suffered stroke but remains with unaddressed rehabilitation needs may be unable to cook for themselves, do grocery shopping independently or visit friends and relatives. This is relevant because all individuals have the right to the kind of health that enables their inclusion and meaningful participation in all areas of life (United Nations, 2006, 2008). Alternatively, when individuals who require rehabilitation services seek them and need to pay out of pocket (OOP) for them, this may predispose individuals to catastrophic expenditure (Piroozi *et al.*, 2016). .

Secondly, investing in rehabilitation services and assistive device provision is not only beneficial to individuals but it results in cost savings for the state. Recent evidence conducted by AT2030, a global assistive technology organisation, demonstrated that provision of assistive technology such as glasses, wheelchairs, hearing aids and prosthetics results in a life-time return on investment to the magnitude of 9:1 (ATScale, 2020). However, the opposite is true as well: failing to provide rehabilitation services for individuals with impairments leads to secondary complications which are usually more severe and require more specialised care (Kuper and Heydt, 2019). For example, prolonged immobility may result in pressure sores which leads to higher costs of care for the state than would have been required if the initial impairments had been addressed (Rural Health Advocacy Project, 2017).

Thirdly, the provision of rehabilitation services is an important health strategy for achieving the 2030 Sustainable Development goals (Kuper and Heydt, 2019; ATScale, 2020). This is because rehabilitation facilitates the inclusion and participation of individuals in their societies. This is

relevant since societies in which individuals are included and participate are likely to contribute to a productive local economy.

Gaps in the Global Rehabilitation Literature

The factors contributing to the limited provision of rehabilitation services globally are multiple and relate to all the building blocks of the health system(Morris *et al.*, 2019). These include the financing of rehabilitation (Shahabi *et al.*, 2020), capable rehabilitation information systems (McPherson *et al.*, 2017), service delivery (Christian *et al.*, 2016), leadership and governance (Visagie, Scheffler and Schneider, 2013; Hussey, MacLachlan and Mji, 2017), a sustainable rehabilitation workforce (Wylie *et al.*, 2018; Bernhardt *et al.*, 2020), and assistive technology and consumables (Furtado *et al.*, 2017; Magnusson, 2019). Therefore, where there are deficits in any of these components, rehabilitation service provision is compromised. In order to address these components to support rehabilitation service provision in countries, more evidence is required which accounts for the interrelated nature of these components in rehabilitation.

However, there remain notable evidence gaps relating to a systematic situational analyses of rehabilitation services in countries. The WHO rehabilitation guide for action framework represents an important step in supporting countries to systematically gather evidence about the state of rehabilitation services in countries and to develop related strategies for implementation from a national perspective (WHO, 2019a). However, this macro-level guide is unlikely to adequately capture the nuances at sub-national levels such as in health facilities, which account for the variations in rehabilitation service provision within a country. Regarding assistive technology, the rapid assistive technology assessment (rATA) and assistive technology capacity assessment (ATA-C) are both tools which aim to fill the evidence gap by generating population level data on access to devices and examining the ability to countries to provide these devices (WHO, 2021a). However, both of these tools require experienced teams to conduct the assessments and are relatively resource intensive.

1.2 South Africa

The country focus for this thesis will be South Africa. Rehabilitation services in South Africa are available through the public and the private sector (National Department of Health, 2000). The private sector includes private health facilities and non-governmental organisations (NGOs). Utilizing rehabilitation services in private health facilities requires individuals to be either covered by a medical scheme, since the costs of private care are relatively high, or to pay out of pocket. Conversely, in public health facilities, rehabilitation services are free or at a relatively low cost according to an individual's income. As only 16% of the South Africa's population has access to medical scheme coverage, the remaining 84% are dependent on the public health sector's rehabilitation services (National Department of Health, 2020). As such, the focus of this research will be on South Africa's public health sector but with the acknowledgement that while this represents most of the rehabilitation provision in South Africa, it does not represent the full scope thereof.

Factors related to Unmet Need for Rehabilitation

According to recent estimates, 1 in 4 people, or 13 million people, in South Africa have health conditions which could benefit rehabilitation services (IHME, 2021). Similar to global trends, the need for rehabilitation services in South Africa has been increasing over time. Between 1990 and 2019, the estimated need for rehabilitation services in South Africa increased by 75.4% , with hearing loss being the greatest contributor to this (IHME, 2021). These trends for rehabilitation needs and the gaps in rehabilitation service provision mirror those of low-income countries despite South Africa being an upper-middle income country. For instance, the need for physical rehabilitation in South Africa increased by more than 100% (Jesus, Landry, Hoenig, Zeng, *et al.*, 2020).

The reasons that rehabilitation needs are not being comprehensively met in the country are largely related to the shortage of rehabilitation providers. Compared to global estimates, South Africa's

rehabilitation provider estimates are similar to those of low income countries which have ratios of 0.5 per 10 000 (Gupta, Castillo-Laborde and Landry, 2011). Current estimates for rehabilitation providers in South Africa indicate that in the public health sector in 2019, there were 3.1 physiotherapists, 2.6 occupational therapists and total of 1.5 audiologists and speech and language therapists, all per 100 000 population (National Department of Health, 2020). Rehabilitation provider estimates practising in the private sector have not yet been published. While specific professional bodies do collect data on rehabilitation providers, this system's estimates are incomplete as estimates represent bodies' membership, which is voluntary (World Physiotherapy, 2020).

Since South Africa's national estimates for rehabilitation provider ratios are aggregate measures, they do not account for variations within the country. As a result, within South Africa, urban areas have a higher availability of rehabilitation providers compared to rural areas, demonstrating an inequity which is also reflected at the global level (Magnusson, Sweeney and Landry, 2019). Estimates from 2018 demonstrate that amongst audiologists and speech and language therapists, 42.6% were distributed in one urban province, Gauteng with a population of 15 million (Pillay *et al.*, 2020). Similarly, most occupational therapists were distributed in urban provinces, with 35.5% in Gauteng (Ned *et al.*, 2020). Again, most orthotists and prosthetists (37.5%) were distributed in Gauteng (Mduzana *et al.*, 2020). Comparatively, the Eastern Cape with a population of 6.5 million, which is a province with a mostly rural population (Statistics South Africa, 2018b), had only 3.8% of audiologists and speech and language therapists, 5.2% of occupational therapists and 9% of orthotists and prosthetists of the total availability of rehabilitation providers in South Africa.

The variations within South Africa may be explained by several factors. First, poor retention of rehabilitation providers in the public health sector has been reported. In 2013, of those registered with the Health Professionals Council of South Africa (HPCSA), only about one fifth of occupational therapists, physiotherapists, speech therapists and audiologists were employed in the public sector

(table 1.1). In 2018, the proportions remained about a fifth, with the exception of occupational therapists which rose to a quarter (table 1.2). This suggests that not only is retention in the public health sector low but that there have been no improvements in retention over time.

Table 1.1: Proportions of registered rehabilitation providers employed in the public sector in South Africa in 2018

Rehabilitation Providers	Registered with HPCSA (total number)	Employed in public sector (total number)	HPCSA registered and in public sector (proportion)
Occupational therapists	3861	794	21%
Physiotherapists	6162	1040	17%
Speech Therapists and Audiologists	2267	403	18%

Source: (Myezwa and Van Niekerk, 2013)

Table 1.2: Proportions of registered rehabilitation providers employed in the public sector in South Africa in 2018-2019

Rehabilitation Providers	Registered with HPCSA (total number)	Employed in public sector (total number)	HPCSA registered and employed in public sector (proportion)
Occupational therapists	4792	1279	27%
Physiotherapists	7183	1504	21%
Audiologists and Speech and language therapists	3233	711	22%

Source: (National Department of Health, 2020; Pillay *et al.*, 2020)

The second contributing factor to rehabilitation service variations within South Africa is the high proportions of rehabilitation provider posts which remain vacant table 1.3. Estimates from 2015 report that the proportions of vacant posts were between 22%-27% for occupational therapists, physiotherapists, speech and language therapists, and audiologists (Department of Health: Republic of SA, 2015). There is a need for updated estimates to clarify what the estimates are now. In the Eastern Cape province, the vacancy rates for rehabilitation providers were higher than national rates, with almost half of the posts remaining vacant. This is likely explained by the low retention of rehabilitation providers or unsuccessful recruitment of these providers.

Table 1.3: Vacancy rates of rehabilitation professionals in 2015 in South Africa's public sector

Prov-ince	Occupational Therapist		Physiotherapist		Speech-Language Therapist and Audiologist	
	Posts filled	Vacancy rate	Posts filled	Vacancy rate	Posts filled	Vacancy rate
EC	75	54%	111	45%	40	42%
FS	69	30%	68	36%	12	63%
GP	271	16%	230	14%	149	9%
KZN	236	9%	327	9%	154	14%
LP	193	3%	58	5%	67	14%
MP	96	54%	75	63%	49	68%
NC	63	28%	59	34%	33	21%
NW	70	13%	85	14%	26	16%
WC	140	5%	143	3%	66	3%
SA	1 213	22%	1 256	23%	596	27%

Source: Department of Health. Occupational Categories; February 2015.

Source: (Department of Health: Republic of SA, 2015)

The third factor which may be accounting for the in-country variations relates to recruitment into the public health sector. Although recent rehabilitation graduate output has increased over time (ASSAAf, 2018), a report suggests that placement procedures by the Department of Health appear to have a bias towards placing trainees in urban health facilities over rural health facilities (Rural Health Advocacy Project, 2018). A limitation of the graduate output data is that they are not disaggregated according to the different types of rehabilitation providers. This is relevant because each of the types of rehabilitation providers perform different, albeit complementary, clinical roles and they follow distinct educational and training trajectories.

The three factors of retention, vacancy proportions and graduate outputs all refer to issues of workforce as contributing factors to the variations seen within South Africa. However, there is another critical aspect of rehabilitation service provision, which has received less attention in the literature related to South Africa. This aspect is the rehabilitation service capacity within health facilities.

According to the only available national health facility audit conducted in 2013 in South Africa, 70% of hospitals had dedicated treatment spaces for physiotherapy, 61% for occupational therapy, 33%

for speech therapy and 31% for audiology (Health Systems Trust, 2013). However, in the same audit, the availability for equipment for physiotherapy, occupational therapy, speech and language therapy and audiology were 100%, 55%, 32% and 29%, respectively. This means that with the exception of physiotherapy services, despite the reported availability of treatments spaces, there were marked deficits in equipment to fill those spaces and render rehabilitation services. The implication is that an assessment of only one component of the rehabilitation service as a proxy for service provision is inadequate since treatments spaces, equipment and providers work in synergy to provide a capable service. Moreover, while all hospitals which offered physiotherapy services were reported to have equipment, the assessment did not specify the list of what equipment was examined. Therefore, it is unclear whether the 100% truly reflects whether the full scope of rehabilitation equipment was indeed present.

For the South African context, this is particularly relevant because rehabilitation providers, which are already in limited supply, cannot provide a capable service without the required infrastructure, equipment, assistive devices and consumables. No previous reports or literature document rehabilitation service capacity as a composite measure of infrastructure, equipment, assistive devices, consumables and human resources. Studies thus far have examined only a selection of one or more of these aspects. However, the Harmonized Health Facility Assessment (HHFA), which has a rehabilitation module, is a positive step towards collecting comprehensive health facility-level data on rehabilitation service capacity (WHO, 2021b). Even so, the HHFA's rehabilitation module contains a sparse list of items related to the treatment space, equipment and consumables, and does not include assistive devices. As such, the rehabilitation module in its current form is unlikely to provide a useful assessment of what the nature of rehabilitation service capacity is in a health facility.

Qualitative evidence reports that health facilities in rural South Africa have a limited availability of assistive devices (Visagie, Scheffler and Schneider, 2013). Other studies have also reported unmet

rehabilitation needs in urban areas in South Africa. For instance, one study reported that approximately one third of people with disabilities in an urban and low-income area in South Africa had unmet needs for rehabilitation services including assistive devices (Maart and Jelsma, 2014). Another study conducted in an urban provincial-level hospital reported that only 15.2% of patients of all ages who were clinically deemed to require hearing aids received them (Hlayisi and Ramma, 2019). However, since the study reviewed patient files, that is individuals who had already made contact with rehabilitation services, the unmet needs are likely higher than 15.2%. Even so, these studies suggest that unmet needs for rehabilitation services are present in both urban and rural areas in South Africa, but that the extent of unmet needs is likely higher in rural areas.

Cost of not Investing in Rehabilitation Services

Persisting rehabilitation needs affect both individuals (United Nations, 2008; Piroozi *et al.*, 2016; Dulhanty *et al.*, 2019) and the state. A study in rural South African health facilities identified gaps in every step of the implementation framework for wheelchair guidelines (Visagie, Scheffler and Schneider, 2013). Therefore, unmet needs for rehabilitation are also a reflection of unmet policy goals in South Africa. This is because the provision of assistive devices in countries requires the appropriate policies, providers, products and processes (MacLachlan and Scherer, 2018; MacLachlan *et al.*, 2018). When there are deficiencies in any of these aspects, it may be possible to observe them as policy implementation gaps at the level of the health facility. South Africa does have national and sub-national policy guidance to support rehabilitation service provision. Key national policy documents related to rehabilitation in South Africa include the *National Rehabilitation Policy* and the *Framework and Strategy for Disability and Rehabilitation* (National Department of Health, 2000, 2015). However, to date, there has been no research into whether and how the existing rehabilitation policy documents have been implemented at various levels of the health system.

Moreover, by not investing in rehabilitation services, the state forgoes the cost savings which accompany rehabilitation service provision. A study in South Africa estimated that there could be considerable cost savings to the state if stroke survivors who accessed rehabilitation services returned to their prior workplaces (Louw *et al.*, 2019). This supports the global literature findings which cite marked return on investment when rehabilitation services are provided to individuals (ATScale, 2020). Since South Africa does already offer rehabilitation services in the public health sector, it is likely that South Africa's current investment into rehabilitation services is not resulting in the intended coverage of rehabilitation services across the population, as suggested by the evidence.

Improving rehabilitation service provision in South Africa will require additional evidence; however gaps remain in the rehabilitation literature regarding South Africa. Much of the available literature on the rehabilitation workforce is largely limited to quantifying the numbers of rehabilitation providers (Louw *et al.*, 2020; Ned *et al.*, 2020; Pillay *et al.*, 2020). Such evidence is important since it provides estimations of the size of the workforce and its distribution. However, while longitudinal data exists for medical doctors (Reid *et al.*, 2018) and nurses (Ditlopo, Blaauw and Lagarde, 2016) in South Africa, none exists for rehabilitation providers. Being able to chart the professional trajectories for rehabilitation providers may provide insights into when they leave the public health sector and where they move to. What is known about the early years of recent rehabilitation graduates is that they feel unsupported in performing their roles. For instance, in one study, an occupational therapist in their community service year reported that they felt that their undergraduate training had not adequately prepared them for rural practice in the Eastern Cape (Ned, Cloete and Mji, 2017). Community service in this context refers to the one year of government mandated work after health professionals graduate from university. Another study amongst community service occupational therapists in South Africa found that while participants reported that supervision was available, the supervision was deemed inadequate to support their professional practice (Stormbroek and Buchanan, 2019). Similarly, in another study, community

service and recent post-community service physiotherapists expressed the need for profession-specific supervision and mentoring to inform and develop their clinical practice (Mostert-Wentzel, Frantz and van Rooijen, 2013). This limited support may be related to shortages in senior rehabilitation staff who can provide focused and planned support, as has been suggested in other rural contexts in Australia (O'Sullivan and Worley, 2020). Moreover. the experiences of community service audiologists and speech and language therapists is lacking in the literature. Therefore, future research should examine the experiences of community service rehabilitation providers in light of government policy goals while also taking into account the professional goals of newly trained rehabilitation providers.

Another important area in which there is sparse data in South Africa is that related to the availability of assistive devices, consumables and equipment in health facilities. Research which focusses on these aspects of service provision would complement the existing literature on the rehabilitation workforce in the public health sector. This would allow the government to have focussed interventions to improve the size, distribution and performance of the rehabilitation workforce whilst still ensuring that there is prudent stewardship of resources and policy goals are met. Relatedly, the limited literature which does address rehabilitation resources such as assistive devices does not explore the overarching policy processes which give rise to how rehabilitation service resources are made available. For instance, the evidence base examining priority setting and resource allocation practices is growing in the health policy and systems research literature (Barasa *et al.*, 2016a; Razavi *et al.*, 2019) but very little related literature exists for rehabilitation services. Therefore, there is a need for qualitative evidence regarding the policy processes and stakeholders which are involved in the implementation of rehabilitation services in health facilities.

1.3 Access

Up until this point, this chapter has discussed rehabilitation services as it relates to its supply-side considerations. In order for rehabilitation needs to be truly met in a population though, rehabilitation services must also be accessed by the individuals who could benefit from them.

Anyone can benefit from rehabilitation services, not only people with disabilities. However, a critical aspect of understanding the true nature of access that individuals have to services is to examine groups of individuals with similar health profiles or characteristics. This is because barriers to access and the extent to which these barriers limit access might differ between different populations. For example, public transport considerations for a person with a physical disability differ to those of an individual who has no disability because of factors such as transport accessibility and stigma. While both of these individuals may seek rehabilitation services, the dimensions of access, according to Levesque and colleagues (2013), which influence their ability to reach, pay and engage with rehabilitation services will differ in important ways.

Regarding ability to reach rehabilitation services, accessible transport for people with disabilities is well established as an important barrier among people with disabilities in South Africa and other LMICs (Kumurenzi *et al.*, 2015; Bright *et al.*, 2018; Magnusson, Sweeney and Landry, 2019). Regarding the ability to pay for rehabilitation services, people with disabilities are over represented amongst the poor because poverty and disability reinforce each other (Banks and Polack, 2013). In South Africa, people with disabilities have been shown to encounter economic hardship when seeking healthcare (Hanass-Hancock *et al.*, 2017). While rehabilitation services in the public health sector are available at low or no cost depending on an individual's income level, financial considerations still matter because even seemingly small out of pocket costs may result in catastrophic health expenditure. This is especially the case where people with disabilities tend to have a higher frequency of needing healthcare and rehabilitation services compared to those without disabilities (Banks and Polack, 2013; Kuper and Heydt, 2019). Regarding the ability to

engage with rehabilitation services, poor rehabilitation capacity in health facilities, including health facility accessibility, prevents effective utilisation of these services. For instance poor identification of rehabilitation needs and referral (Visagie and Swartz, 2016), limited resources for rehabilitation (Mlenzana *et al.*, 2013), and an absence of production materials for protheses (Magnusson, 2019) have all been reported as preventing optimal engagement with rehabilitation services.

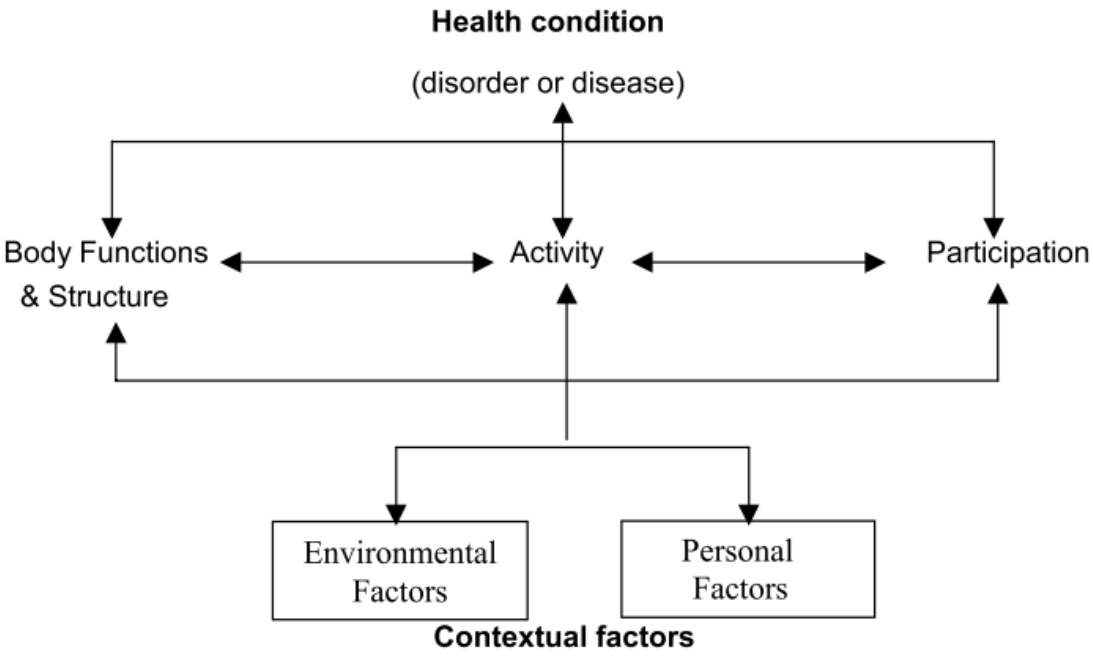
This means that while any person, regardless of their disability status, might benefit from rehabilitation services, people with disabilities are a key population group for examining the access pathway to rehabilitation services. Therefore, in this thesis, perspectives on access to rehabilitation services will be confined to people with disabilities, specifically those with physical disabilities, but with the anticipation that some aspects may be common amongst those with other disabilities.

Models of Disability

Therefore, it is important to be able to first identify this population of people with disabilities. However, conceptualising disability is complex. There are various models for conceptualising disability, three of which I will outline. According to the medical model, disability is synonymous with the presence of an impairment or health condition in an individual and that the correction of the impairment or health condition removes the disability (Marks, 1997; Mitra, 2006). However, in defining disability according to the impairment, this model fails to account for the factors that are external to the individual which may have contributed to the disability. Such factors include buildings that are inaccessible to wheelchair users or how stigma may further reinforce disability by marginalising individuals. The implication of this model is that disability is addressed by providing healthcare and rehabilitation services. Unlike the medical model, the social model views disability as a social construct (Haegele and Hodge, 2016). Disability is thus viewed as the failure of the environment to adapt to different abilities amongst individuals, thereby resulting in the exclusion and oppression of some individuals (Marks, 1997; Lang, 2007). This model addresses the social, political and physical barriers which prevent the full participation of all individuals in society. In

this model, a person with a mobility impairment is disabled by the lack of access to wheelchairs and the absence of ramps in buildings. Nevertheless, it fails to adequately capture impairment related concerns that people with disabilities may experience such as pain and emotional distress. The third model is the International Classification of Functioning, Disability and Health (ICF) (figure 1.1), developed by the World Health Organisation (WHO, 2017a). The ICF, also termed as the biopsychosocial model of disability, draws on both the medical and social models in order to conceptualise disability in a more comprehensive way (Mitra, 2006). In the ICF, disability is the presence of an impairment or health condition (for example a stroke), in interaction with personal factors (for example of geriatric age) and environmental factors (for example the presence of steps in the home), resulting in activity limitations and participation restrictions (for example limitations in dressing themselves independently and attending community meetings, respectively) (WHO, 2017a). Table 1.4 includes the components which constitute the ICF framework. In this thesis, I will be adopting the bio-psychosocial model of disability.

Figure 1.1: WHO International Classification of Functioning, Disability and Health



Source: (WHO, 2002:9)

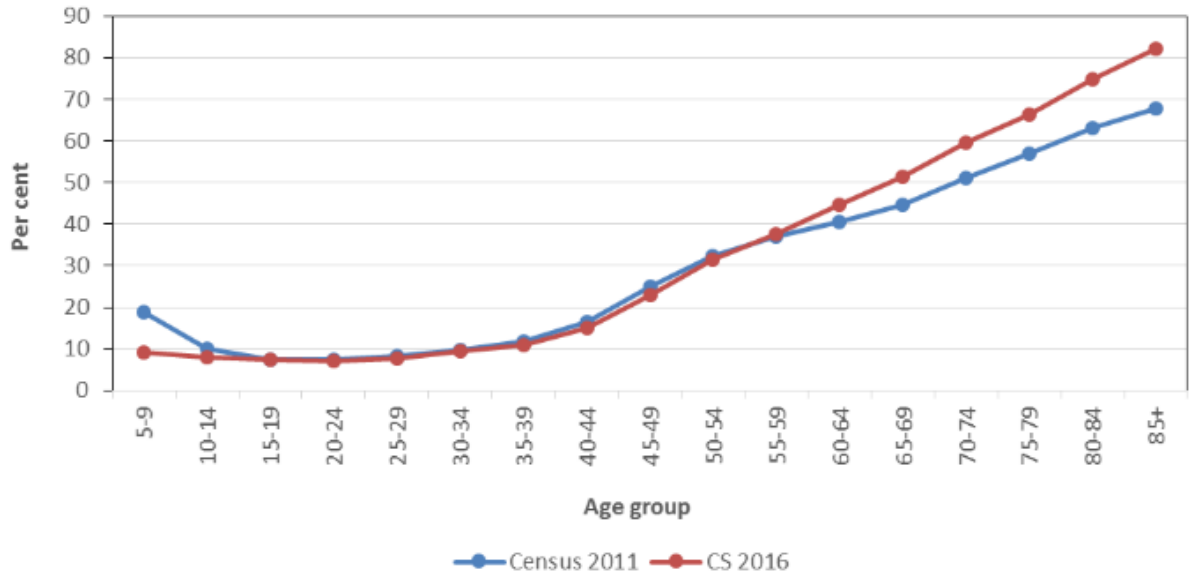
Table 1.4: Components of the WHO International Classification of Functioning, Disability and Health

Impairments	Problems in body function or structure such as a significant deviation or loss.
Activity limitations	Difficulties an individual may have in executing activities.
Participation restrictions	Problems an individual may experience in involvement in life situations.
Environmental factors	Make up the physical, social and attitudinal environment in which people live and conduct their lives.
Personal factors	Relate to factors specific to the individual

Source: (WHO, 2002:10)

According to the World Report on Disability, 15% of the global population lives with a disability (WHO, 2011). This translates to one billion people, 80% of whom reside in LMICs (WHO, 2011). In South Africa, the prevalence of disability according to the 2011 census was 7.5% (Statistics South Africa, 2014a). Updated estimates for South Africa according to the 2016 community survey record the disability prevalence as similar to that of the census, at 7.7% (Statistics SA, 2016a). In South Africa, both the 2011 and 2016 estimates were derived using the Washington Group short set questions which ask about self-reported activity limitations (Washington Group, 2018). However, the prevalence data from the global estimate and South Africa are not comparable because the data reflects different years and the methods and thresholds for computing disability prevalence differ (WHO, 2011). Disability prevalence in South Africa increases by age as depicted in figure 1.2 similar to global trends (Statistics South Africa, 2014a, 2018a). Additionally, disability is more prevalent amongst females, which is consistent with findings from the World Report on Disability (WHO, 2011).

Figure 1.2: Prevalence of disability in South Africa according to the 2011 census and 2016



community survey

Source: (Statistics South Africa, 2018a)

When the data is disaggregated to the provincial level, the Eastern Cape has a disability prevalence of 8.6% according to 2016 estimates amongst those aged 5 years and older (Statistics South Africa, 2016). The Eastern Cape, which is South Africa's third most populous province, is mostly rural and ranks amongst the county's most deprived provinces (Statistics South Africa, 2018b). Combined with its disability prevalence and the access barriers that people with disabilities encounter when accessing rehabilitation services, the Eastern Cape presents an opportunity to examine rehabilitation service availability and the factors which influence access. Of particular interest is OR Tambo district, which served as the Eastern Cape's pilot site in 2018 for evaluating the service delivery improvements and interventions which were conducted in preparation for South Africa's forthcoming National Health Insurance (NHI) (National Department of Health, 2019). The NHI is the name given to South Africa's universal health coverage plan. The intention for selecting OR Tambo district is so that the findings of this thesis might complement the findings of the pilot report, which did not include an assessment of rehabilitation services, in order to inform the next phase of the NHI implementation.

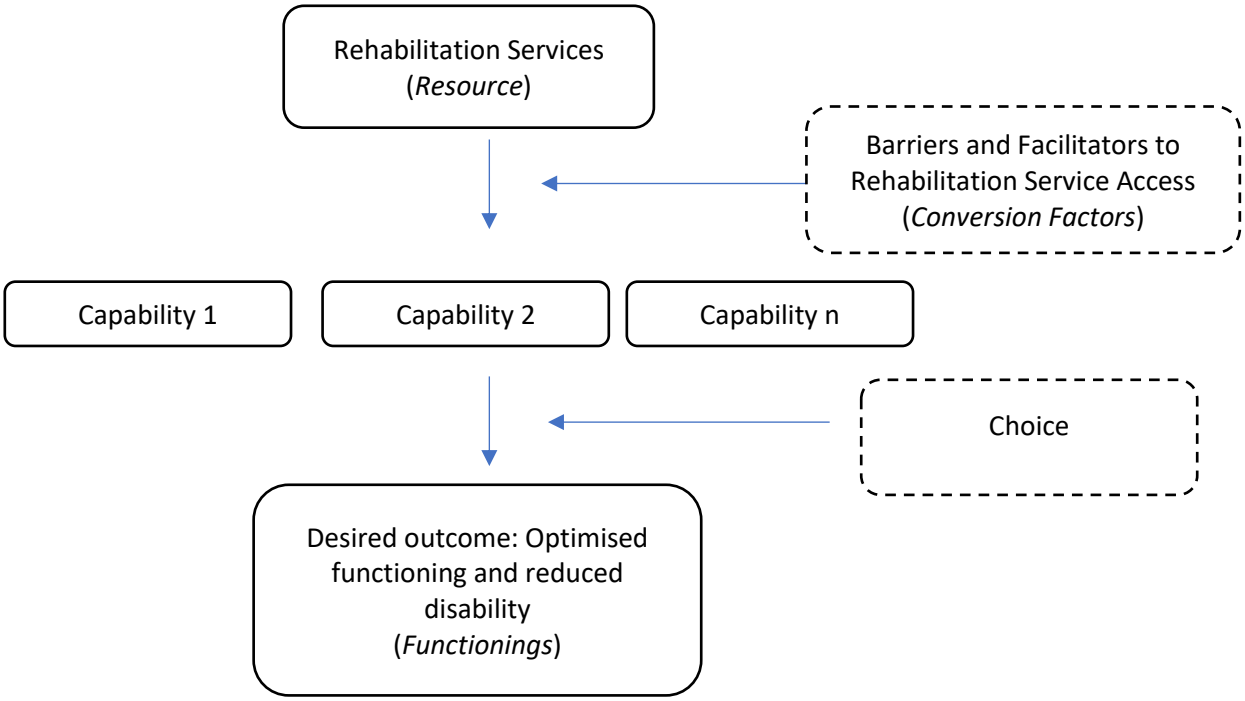
1.4 Rationale

In summary, there remain unmet needs for rehabilitation services globally and in South Africa. This is attributable to shortages in rehabilitation providers and other aspects of rehabilitation service capacity in health facilities. This is also attributable to gaps in the available evidence to support rehabilitation service provision in South Africa's public health sector. Most of the available evidence examines either the supply-side of rehabilitation services or the demand-side, but very few examine both aspects, which reveals how the components of the service interact with the experiences of people with physical disabilities to achieve access. Moreover, there is a lack of evidence which examines how and whether rehabilitation policy is implemented in countries to produce the resulting rehabilitation service. Therefore, to address these gaps in the literature, in this thesis I will assess both the availability (supply-side) and the accessibility (demand-side) of rehabilitation services in a rural district of South Africa. I will do this examining the policy implementation gaps between South Africa's rehabilitation policy and the available rehabilitation services in district hospitals (from hereon, health facilities). By examining the implementation gaps, this will require a review of the rehabilitation policy documents and an assessment of the rehabilitation service capacity in health facilities. Regarding rehabilitation service capacity, and to contain the scope of this thesis, I will select the elements of rehabilitation workforce, equipment, assistive devices and consumables to assess. These elements are foundational elements upon which others such as clinical guidelines and process systems can be built. I will then document the experiences of people with physical disabilities accessing rehabilitation services in the same district. In so doing, I aim to contribute to the rehabilitation health policy and systems research literature and to inform the next phase of implementation of South Africa's universal health coverage plan regarding rehabilitation service provision.

Chapter 2: Overview of Methodology

This chapter provides an overview of the methodology in this thesis with detailed explanations provided within each of the related chapters. The overarching framework for the whole thesis is the Capability Approach (figure 2.1), with rehabilitation services presented as the *resource* component of the framework. The components of the framework which I address in this thesis are *resource*, *conversion factors*, *choice* and, to a lesser degree, achieved *functionings*.

Figure 2.1: The Capability Approach as the overarching framework



Objective 1: South Africa's Rehabilitation Policies

This is a qualitative document review of South Africa's national and sub-national (Eastern Cape province and OR Tambo district) rehabilitation policies for the adult population. This involved an electronic search of policies spanning the period 1994 to 2019. Using the categories of the WHO health systems framework components as categories (WHO, 2010a), I analyze what the policies state regarding how rehabilitation services are intended to be provided in South Africa.

Objective 2: Gaps in South Africa's Rehabilitation Policies

This objective is a continuation of the first. Using the same methodology as that of objective 1, I qualitatively describe what the rehabilitation policies do not state, that is, the gaps. Both objectives 1 and 2 contribute to an understanding of how the policies inform the conceptualization of and planning for rehabilitation services (resource) at national and sub-national levels.

Objective 3: Implementation Gap- Accessibility of Health Facilities

This is a quantitative descriptive study performed in all nine district hospitals in OR Tambo district, South Africa. To examine the accessibility of the health facilities, I employed the Sightsavers Accessibility Standards for Health facilities tool (Pregel, Smith and Bridger, 2019). The analysis uses descriptive statistics. I then drew from the findings of objectives 1 and 2 to qualitatively describe the policy-implementation gap by detailing the discrepancy between the policies and accessibility in health facilities.

Objective 4: Implementation Gaps- Rehabilitation Service Capacity

This is a quantitative descriptive study performed in all nine district hospitals in OR Tambo district to examine the available assistive devices, equipment, consumables and rehabilitation workforce. I employed a health facility assessment which I adapted from the draft WHO Harmonized Health Facility Assessment (Rehabilitation Module) (WHO, 2018c), the Global Co-operative Assistive Technology (GATE) Assistive Product List (APL) (WHO, 2016), the ATScale list (ATscale, 2018) and South Africa's National Catalogue of Commodities for Primary Healthcare Facilities (Consumables Module) (Department of Health, 2018d). To delve deeper into the characteristics of the rehabilitation workforce in each health facility, I used a quantitative paper-based provider questionnaire. The analysis uses descriptive statistics. I then drew from the findings of objectives 1 and 2 to qualitatively describe the policy-implementation gap by detailing the discrepancy between the policies and the available rehabilitation service capacity at the level of the health facility.

Objectives 3 and 4 thus demonstrate what rehabilitation services look like in reality and how the policies are translated into the *resource*.

Objective 5: Implementation Gap Contributing Factors

This qualitative study explores the contributing factors to the implementation gaps identified in objectives 3 and 4 from the perspectives of frontline rehabilitation managers in each health facility. I adopted a constructivist philosophical underpinning (Neuman, 2014) in order to reflect the experiences of the managers within their specific contexts and experiences. This philosophical approach also acknowledges that my former experience of working in OR Tambo district as a physiotherapist will influence how I collect and interpret the data because I, too, participate in the co-creation of reality with the managers. I collected the data through semi-structured interviews using an interview guide which I developed for the study (Hinton and Ryan, 2020). The themes of the interview guide are arranged according to the components of the WHO health systems framework (WHO, 2010a), with questions and prompts for each component. I then analyzed the transcripts using Framework analysis (Gale *et al.*, 2013; Pope, Ziebland and Mays, 2020). This describes the factors which contribute to the process of translating policy into the available rehabilitation service (resource) through the rehabilitation managers' experiences of implementation.

Objective 6: User Perspectives on Access

This is a qualitative study of the barriers and facilitators that people with physical disabilities experience when accessing the rehabilitation services in OR Tambo district. The philosophical underpinning is constructivist (Neuman, 2014) because the intention is to reflect the multiple realities of individuals as they attempt to engage with the services within their specific contexts and from their own perspectives rather than presenting a single narrative of access (Pope and Mays, 2020). Sampling was convenience and snowballing (Neuman, 2014; Hinton and Ryan, 2020). I then screened the recruited individuals using the Washington Group Extended Set (Mobility

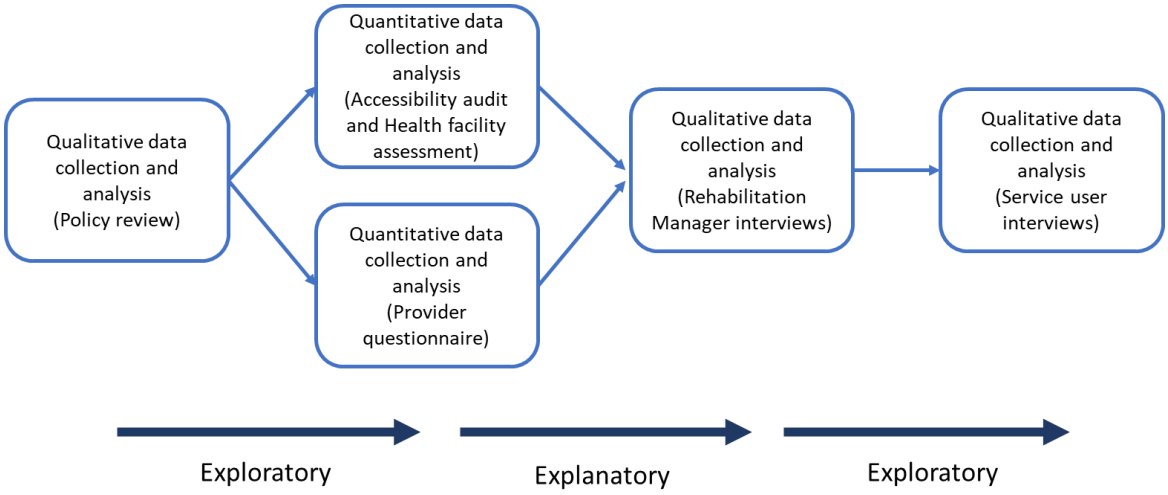
Module) (Washington Group, 2011). I collected the data in the form of semi-structured, in-depth interviews with individuals in their households using an interview guide which I developed for the study (Hinton and Ryan, 2020). For the analysis, I employ thematic content analysis (Pope, Ziebland and Mays, 2020b). The findings will provide insights into the factors (conversion factors) which contribute to the ability of users to engage with the *resource* to derive the benefits of optimized functioning and reduced disability. I also describe the *choices* made by users in light of these *conversion factors*, and their consequences when attempting to access rehabilitation services.

Sequencing of the Research Phases

This was a mixed-methods study which combined qualitative and quantitative data (Creswell and Plano Clark, 2011). Previously, the literature on rehabilitation has examined either the services themselves or the access to these services. A mixed methods approached enabled a more comprehensive picture of both the status of rehabilitation service capacity in OR Tambo district and how this interacts with individuals' ability to access rehabilitation services. Specifically, I followed a sequential design with both exploratory and explanatory aspects (Creswell and Plano Clark, 2011). The qualitative and quantitative data were collected and analysed separately (figure 2.1). The first phase included qualitative data collection and analysis for the rehabilitation policy review. The findings from the policy review helped to determine which aspects of rehabilitation service availability in health facilities would be prioritised for exploration. In the second phase, I collected and analysed quantitative data relevant to rehabilitation service capacity in order to examine the available rehabilitation service capacity. This included the accessibility audit, health facility assessment, and rehabilitation provider questionnaire. Moreover, the quantitative findings served to inform an assessment of the presence of an implementation gap between the rehabilitation policies and the available rehabilitation services. After establishing the presence of an implementation gap, I then collected and analysed the qualitative data from the semi-structured interviews with rehabilitation managers. This was to explain the implementation gap findings. The combined findings from the qualitative and quantitative data then were used to explore whether

and how people with physical disabilities accessed the available rehabilitation services in the third phase of the research. There was also an ethical imperative to ensure that the third phase occurred after I had assessed the presence, capacity and location of rehabilitation services, given that unaddressed rehabilitation needs may arise during the research process (Wassenaar and Rattani, 2016). Finally, I integrated and interpreted all the findings using a single framework, the Capability Framework.

Figure 2.1: Depiction of the sequencing in the mixed methods study



Chapter 3: Study Site- OR Tambo District, South Africa

In this chapter, I introduce the site in which the study takes place. I detail characteristics of OR Tambo as a district and provide relevant information regarding the health facilities in the district.

3.1 Eastern Cape Province

The Eastern Cape, located in the south-eastern part of the country (figure 3.1), is one of nine provinces of South Africa. According to 2016 figures, the total population estimate is 6 996 976 (Statistics South Africa, 2016).

Figure 3.1: Map of provinces in South Africa

Source: (Statistics South Africa, 2014c)

The Eastern Cape is divided into eight district municipalities (figure 3.2) namely: Sarah Baartman, Amathole, Chris Hani, Joe Gqabi, Alfred Nzo, Buffalo City, Nelson Mandela Bay and OR Tambo (Statistics South Africa, 2018b). Amongst the eight district municipalities, OR Tambo has the largest population (Statistics South Africa, 2018b).

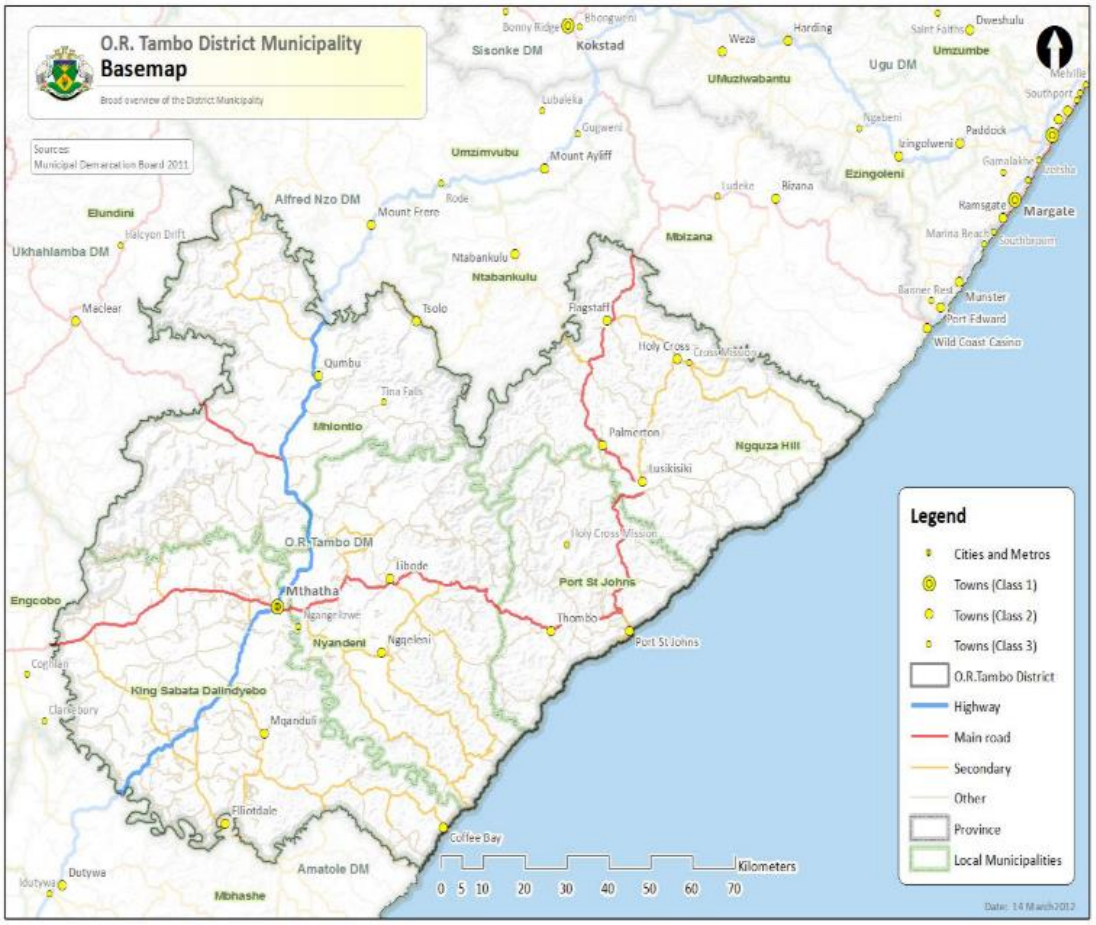
Figure 3.2: District municipalities of the Eastern Cape province

Source: (Htonl, 2016)

3.2 OR Tambo District

OR Tambo District is a largely rural and coastal district (figure 3.3) in the Eastern Cape province with a population of 1 457 382 (OR Tambo District Municipality, 2017). The district covers an area of 12 000km^2 and is divided into five municipalities namely King Sabata Dalindyebo, Nyandeni, Mhlontlo, Port St Johns and Ingquza Hill municipalities (Statistics South Africa, 2016; Massyn *et al.*, 2020). The majority of the population lives in widely dispersed homesteads and villages, and participates in a subsistence economy (OR Tambo District Municipality, 2016).

Figure 3.3: Map of OR Tambo district



Source: (Municipal Demarcation Board 2011 in OR Tambo District Municipality, 2017)

The district has a large working age population (15-64 years), constituting 55% of the total population (OR Tambo District Municipality, 2017). Children aged 0-14 years constitute 39%, and people over the age of 65 years constitute 6%. Despite the large working age population, the district's unemployment rate is high at 44%. This is higher than the provincial and country unemployment rate which are at 37% and 30% respectively and places OR Tambo amongst the bottom ten districts in South Africa in terms of unemployment (Massyn *et al.*, 2020). This may be related to the low basic education completion rates, with 82% of the population having not completed high school education (Massyn *et al.*, 2020).

Regarding water and sanitation, the district is amongst the ten worst performing districts in the country with only 10% of households having access to flushing toilets connected to sewerage, and only 6% of households having access to piped water inside the home (Massyn *et al.*, 2020).

Regarding health estimates, the largest contribution to mortality in the district is attributable to non-communicable diseases (46%) followed by HIV and TB (table 3.1).

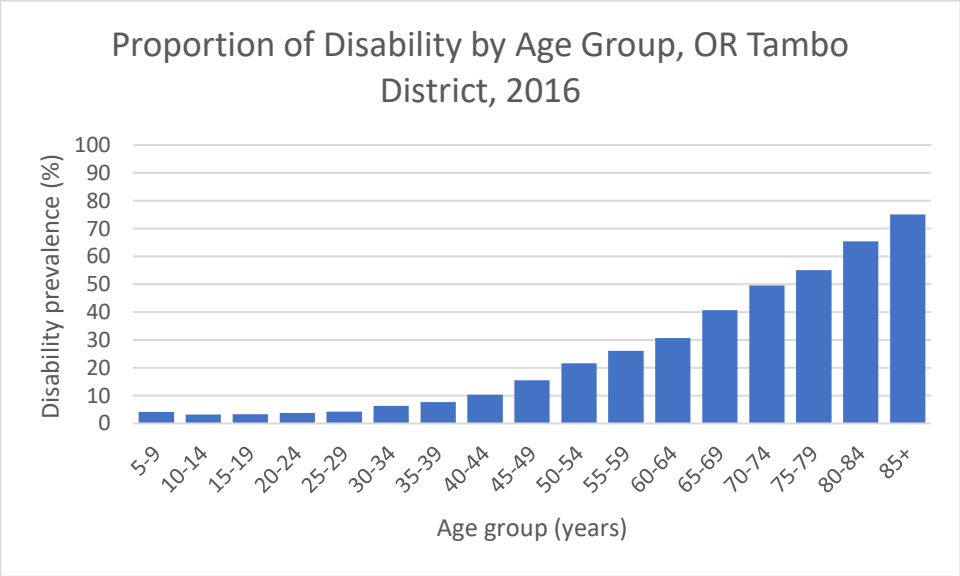
Table 3.1: Main causes of mortality in OR Tambo district in 2019.

Mortality Cause	**Female**	**Male**
Non-communicable disease	46%	36%
HIV and TB	32%	32%
Communicable disease, maternal, perinatal and nutritional conditions	16%	13%
Injury	6%	19%

Source: (Statistics South Africa in Massyn *et al.*, 2020)

The all-age disability prevalence in the district according to the 2011 census was estimated to be 8.9% using the Washington Group Short Set Questions (Statistics South Africa, 2014b). Of this, 60% of those with a disability were females. The prevalence of disability in the Eastern Cape province is estimated to be between 8.6% and 9.6% for individuals 5 years and older according to the 2011 census and 2016 community survey data (Statistics South Africa, 2014c, 2018b). The prevalence of disability in OR Tambo district increases with age (figure 3.4) in line with international estimates (WHO, 2011; GBD, 2020).

Figure 3.4: Prevalence of disability by age in 2016 in OR Tambo district



Source: (Statistics South Africa, 2018b)

According to the Integrated Development Plan for the district, 75% of households receive social welfare grants from the government's Social Development department (OR Tambo District Municipality, 2017). There are child related grants, and for adult recipients there are Old Age, Permanent Disability, Temporary Disability and War Veteran grants. The total number of people receiving disability grants in 2017 was 33 162, constituting 8% of those receiving social welfare grants from the government (OR Tambo District Municipality, 2017).

3.3 Healthcare in OR Tambo District

During the apartheid years, OR Tambo district formed part of the "Bantustans", which were the traditional homelands in which black South Africans resided (Coovadia *et al.*, 2009). Services, including those of healthcare, were systematically underfunded by the government in these traditional homelands (Price, 1986). Although government reforms have been introduced in the post-apartheid years, OR Tambo district's healthcare services continue to be exhibit weaknesses in service delivery, stewardship and management relative to the rest of South Africa. As a result, OR Tambo district was selected as one of 11 National Health Insurance (NHI) pilot sites in which health systems strengthening interventions were piloted ahead of the full implementation of the NHI (National Department of Health, 2016).

In OR Tambo district, 4.2% of the population have medical scheme coverage, which falls below the coverage of the Eastern Cape population (9.8%) and that of the rest of the country (15.4%). South Africa currently has a dual system of public and private healthcare. The lower population coverage of medical schemes in the district means that most of the population relies on the public health sector; when the majority of the population makes use of the private health sector, they pay out of pocket for it, thus predisposing them to catastrophic health expenditure.

The health service delivery platform is formed by a network of 146 Primary health care facilities, namely clinics and community health centres, nine district hospitals, two regional hospitals, 1 Provincial Central Hospital, and 2 Private Hospitals (Department of Health, 2019c; Massyn *et al.*,

2020). District hospitals as a provincial sub-programme have the largest budget expenditure constituting 26.8% of the budget, followed by clinics which have an expenditure of 18.2% (Massyn *et al.*, 2020). This demonstrates that much of the budgetary investments in health in the district are directed at the primary healthcare level rather than at higher and more specialised levels of care.

With regard to the health workforce in the district (table 3.2), per 100,000 population there are an estimated 1.5 dental practitioners, 34.8 medical practitioners, 153.5 professional nurses, 14.8 pharmacists, 1.5 occupational therapists, 2.1 physiotherapists (Massyn *et al.*, 2020). South Africa's and OR Tambo district's estimates of approximately 0.2 per 10 000 rehabilitation providers fall below those of estimates for low-income countries (LICs) in 2011. Though outdated now, estimates for rehabilitation providers in LICs and HICs were 0.5 and 13-16 respectively, per 10 000 population (Gupta, Castillo-Laborde and Landry, 2011).

Table 3.2: Human resources for health in OR Tambo district in 2019

	OR Tambo District (per 100 000)	**Eastern Cape Province (per 100 000)**	**South Africa (per 100 000)**
Dental practitioners	1.5	2.4	2.5
Medical practitioners	34.8	30.8	32
Professional nurses	153.5	170.9	144.8
Pharmacists	14.8	13	11.6
Occupational therapists	1.5	2.3	2.6
Physiotherapists	2.1	2.6	3

Source: (Massyn *et al.*, 2020)

Health Facilities

The characteristics of the health facilities in OR Tambo district are detailed in table 3.3. There are nine district hospitals in OR Tambo district, many of which were previously mission hospitals first established during the colonial period. The 146 clinics and community health centres (CHCs) refer patients to district hospitals. While population estimates for municipalities are available, there are

no available population estimates for each district hospital's population catchment. Regarding rehabilitation services, the provision across health facilities has been challenged by unpredictable human and financial resources over the years (Morris *et al.*, 2019). Only one of the nine district hospitals is anecdotally considered to have an established rehabilitation service, with the rehabilitation department being established in 2006.

Table 3.3: Characteristics of health facilities in OR Tambo district

Municipalities	**Population (total)**	**Clinics and CHCs**	**District Hospitals**	**Health facility bed capacity**
Mhlontlo	189175	27	Dr Malizo Mphehle Memorial	155
			Nessie Knight	150
			St Lucy	40
Nyandeni	309702	30	St Barnabas	169
			Canzibe	140
King Sabata Dalindyebo	488349	50	Zithulele	146
Port St Johns	166778	20	Isilimela	110
Ingquza Hill	303378	19	Bambisana	120
			Holy Cross	224
Total	1 457 382	146		

Source: (Department of Health, 2015e, 2019c; Statistics South Africa, 2018b)

Chapter 4: South Africa's Rehabilitation Policies

4.1 Background

In this chapter, I examine South Africa's rehabilitation policies in order to explore what these documents dictate regarding rehabilitation service provision in the public health sector. I review the policy documents and describe the findings, including the gaps, and present them according to the health system building blocks.

Policies are the foundation of what countries use to support their efforts. Therefore, it is important to begin with what the policies on rehabilitation say as a basis for what can be expected in practice. Within South Africa's health system this is relevant because there are currently no gold standards for rehabilitation service provision which means that it is likely that it is the content of the government's policies which will drive how rehabilitation service provision is conceptualised. This means that in order to understand the landscape of available rehabilitation services in South Africa, the starting point is the national and sub-national policies which are relevant to the planning, organisation and delivery of rehabilitation services through the health system.

Overview of Key National Rehabilitation Policies

It was only relatively recently that rehabilitation services featured in South Africa's policy documents. This first mention appeared in 1994, when the new political dispensation after the apartheid regime was established. The *National Health Plan for South Africa* acknowledged that every individual has the right to optimal health, including rehabilitation services (ANC, 1994). Having adopted the Primary Healthcare (PHC) Approach as articulated in the Alma Mata declaration, rehabilitation services were intended to be provided via the service delivery platform of the district health system. Under this delivery platform model, rehabilitation services formed part of a continuum of care alongside promotive, preventative and curative health services (ANC, 1994). In 1997, the government published a vision for South Africa's health system in the *White Paper for the Transformation of the Health System in South Africa*. Rehabilitation services featured

in this policy directive as part of the government's aim to deliver comprehensive primary health care through the district health system (Department of Health, 1997). The rehabilitation service was intended to include "basic rehabilitative and physical therapy services" (Department of Health, 1997) provided by "physiotherapists and assistants, occupational therapists and assistants, and audiologists and audiology technicians" (Department of Health, 1997).

In the same year, the *Integrated National Disability Strategy* was published and provided more detailed guidance relating to people with disabilities. In the *Integrated National Disability Strategy*, rehabilitation was identified as a key policy area in addressing the needs of people with disabilities and people with disabilities were identified as key users of rehabilitation services (Office of the Deputy President, 1997). Two years after this, in 1999, the *Health Sector Strategic Framework* was published and re-iterated the approach to the planning and delivery of interventions as the PHC approach consistent with earlier government policies (Department of Health, 1999). Rehabilitation services in government policy documents have continued to be included as one of the key health interventions. In order to realise what the policies dictate, an important consideration in supporting the provision of rehabilitation services is the financing thereof.

South Africa is now in the process of transitioning towards the full implementation of its universal health coverage (UHC) plan, called the National Health Insurance (NHI), which is planned to achieve its full effect in the year 2026. The UHC plan itself as stipulated in the *White Paper on the National Health Insurance for South Africa* stipulates the reconfiguring of existing funding arrangements in order to finance the components of the health system in a way which promotes health and equity (Department of Health, 2015c). What is relevant for rehabilitation services is that according to the UHC plan, rehabilitation services will be available for the entire population without the need to pay for the services at the point of care. However, the UHC plan's content is largely focussed on the financing arrangements which aim to facilitate this availability of rehabilitation services, but it does not stipulate how rehabilitation services will be planned, organised and delivered to facilitate

access under the new plan. Thus, the implementation of the UHC plan with regards to rehabilitation services will likely be based on existing policies which relate to rehabilitation services in order to guide the realisation of the goals set out in the UHC plan.

Given that the implementation of the UHC plan as it relates to rehabilitation services will likely be guided by existing rehabilitation and disability policies, the existing policies should be explored in order to illicit what they dictate regarding rehabilitation services. This leads to the following research question:

What do South Africa's national and sub-national policies dictate with regards to the provision of rehabilitation services for adults and what are the gaps?

In line with the research question, the objectives of this research are the following:

1. *To review existing national and sub-national rehabilitation policies in South Africa for the adult population.*
2. *To identify and describe the gaps in the reviewed policies using the World Health Organisation's Health Systems framework.*

4.2 Methodology

The approach that I adopted in this review was that the policy process is not linear but instead comprises incremental changes over time (Walt *et al.*, 2008). Therefore, I reviewed all the relevant policies in the defined period instead of reviewing only the most recent ones. In order to help elucidate the policy landscape related to rehabilitation policies in South Africa, I conducted a qualitative document review (Bowen, 2009) of both national and sub-national (provincial and district) policies related to rehabilitation services for adults and disability within the context of health, with a focus on the rural district of OR Tambo in the Eastern Cape Province. For the provincial policies, only the Eastern Cape was included, and for the district policies, only OR Tambo district policies were included. This is because provinces and districts use the national policy

guidance to develop their own contextually relevant policies. Employing document analysis as a qualitative research method, I systematically reviewed all electronic policy documents from 1994 to 2019 in order to establish a broad view of how rehabilitation services have been planned for over time. The year 1994 marks South Africa's democratic dispensation after the apartheid government. Prior to 1994, the goals of the apartheid government were to segregate the population according to racial lines and to promote superior health for white South Africans. One of the ways in which this was demonstrated was in the health policies. It has been argued that during apartheid, health policy was actually leveraged by the government to further the goals of apartheid thus allowing the justification of allocating more funds for the healthcare of white people while neglecting health services in rural areas where black people resided (Price, 1986). Therefore, as the current government has obligations under a different constitution with differing philosophical underpinnings, it is more appropriate for this research to focus on health policies after 1994 until 2019 to examine the guidance for existing rehabilitation services.

Since the Departments of Health and Social Development keep an electronic repository of all policies on their official (government approved) websites, I was able to access the documents without the need to contact officials or follow lengthy protocols. What qualified as a policy document was any written guiding document which influences: who provides rehabilitation services in the public sector (rehabilitation providers), where rehabilitation services should be provided (levels of the health system), to whom they should be provided (target population), how they should be provided (service delivery and planning) and why they should be provided (goals of rehabilitation) (WHO, 2012). The document needed to be published by the South African government and signed for approval by the relevant minister or authority.

Further, I stipulated inclusion and exclusion criteria (table 4.1) to reflect the scope and question of the research. I chose and applied the inclusion criteria based on the need to capture policies at the various levels of government administration, that is national (South Africa), provincial (Eastern

Cape) and district (OR Tambo) levels. The presence of the words “disability”, “disabilities”, “disabled”, “rehabilitation”, or “allied health” anywhere in the document were an indication of whether the subject of this review was addressed, and this was determined using the electronic “search” function. Words like “impairment” and other specific disabling health conditions were not specifically searched in order to make the search more manageable, so some papers may have been missed. I developed and applied the following exclusion criteria to the documents which I found. First, policy documents were excluded if they were speeches made at political conferences or meetings because these denote the position of the political party but not necessarily that of the government and therefore the government has no obligations. Second documents were excluded if they were submissions or public comments on policies or other Green Papers which were still in the consultation phase of policy formulation. This is because after commentary, the policies may still be revised to reflect different objectives. Third, as this review’s focus was on the health system and the corresponding government agency responsible for the health system, policies published by the Department of Education and other government departments were excluded. Fourth, mental health policies were excluded because while there is some overlap in rehabilitation services, this is not within the scope of my overall research aims. Finally, policies relating to paediatric populations were excluded because the focus of this research is on access to rehabilitation services for adults. Moreover, these two population groups have different needs and are entitled to different obligations from the government due to their ages, developmental trajectories and autonomy.

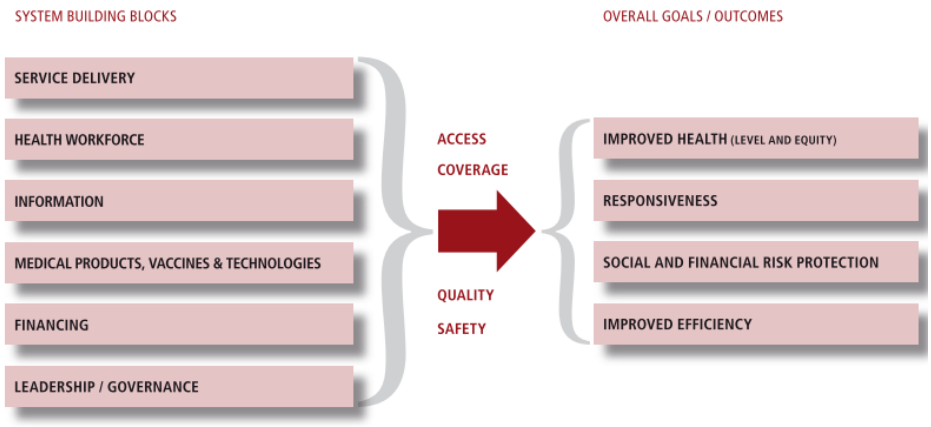
To ensure that the policies I retrieved from the search were exhaustive, I contacted key stakeholders at the national and sub-national level with a list of policies which I had already sourced to date. Specifically, I contacted a rehabilitation policy expert, the provincial disability and rehabilitation manager and the national deputy director of General Primary Health Care. As a result, I was referred to the secretary of the Rural Rehabilitation of South Africa (RuReSA), who is responsible for disseminating rehabilitation and disability policies to members of the organisation. This communication resulted in additional relevant documents being added the list.

Table 4.1: Policy Review Inclusion and Exclusion Criteria

Include	Exclude
1. Policy documents and implementation guidelines issued by the National (South Africa) and sub-national (Eastern Cape Provincial and OR Tambo District) administrative governance levels that include the key words "disability", "disabilities", "disabled", "rehabilitation", or "allied health". 2. White Papers, strategy Papers, operational guidelines, and annual plans produced by the Department of Health and Department of Social Development at the national and sub-national levels including the key words "disability", "disabilities", "disabled", "rehabilitation", or "allied health" anywhere in the main text of the document.	1. Vision and goals from Political Party conferences or rallies, that is policies of a political party. 2. Submissions or public comment regarding policies or Bills. 3. Green papers 4. Documents from the Department of Education. 5. Mental Health 6. Paediatric Policies 7. Documents prior to 1994.

I analysed the content of the included policy documents using thematic content analysis (King 2004 in Nowell *et al.*, 2017; Pope, Ziebland and Mays, 2020). I determined a-priori that the themes for analysis would follow the WHO health systems framework (WHO, 2007). The WHO health systems framework (figure 4.1) identifies six components (building blocks) which are critical for a health system in order to improve population health in an efficient manner and without exposing individuals to financial risk. These six components are interconnected such that all are dependent on each other and are required for achieving improved health outcomes. Using NVivo 11 (QSR International, 2017), I categorised each policy document's content according to these six components.

Figure 4.1: WHO Health Systems Framework



To promote rigour in the process of data collection and analysis (Nowell *et al.*, 2017), I met weekly with my primary supervisor to discuss the emerging categories and themes, and I maintained clear records in the form of working drafts regarding my rationale for the decisions I made in the data collection and analysis processes.

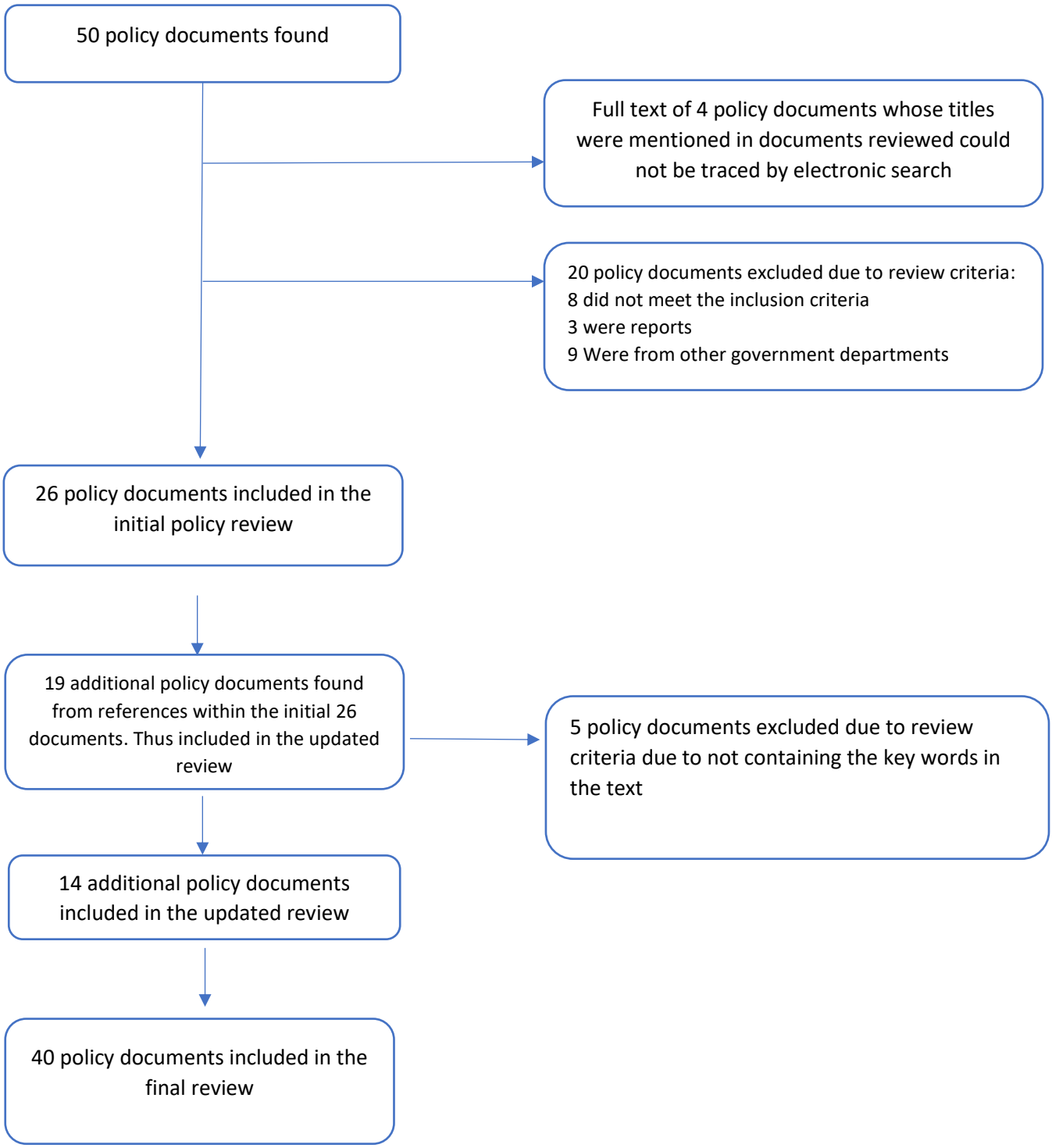
4.3 Findings

The initial desktop search for policy documents and consultation with key stakeholders yielded 50 national and sub-national policy documents (figure 4.2). From the query to key stakeholders, 15 documents were recommended of which one additional document met the inclusion criteria. Of the remaining 14 documents, one document had already been included in my initial list of policies, one did not contain the key words, one related to mental health, one was a submission during the consultative process, two related to paediatrics, one was from the Department of Local and Provincial government, one was from the Department of Labour and six were from the Department of Education.

After applying the inclusion and exclusion criteria, I identified 26 policy documents to be included in the policy review. I then updated the policy review to include additional documents referred to by my key contacts which were not initially included in the initial review. In the updated review, I found 19 additional policy documents, of which five were excluded according to the inclusion and

exclusion criteria. The final review included a total of 40 national and sub-national policy documents (appendix 4.1).

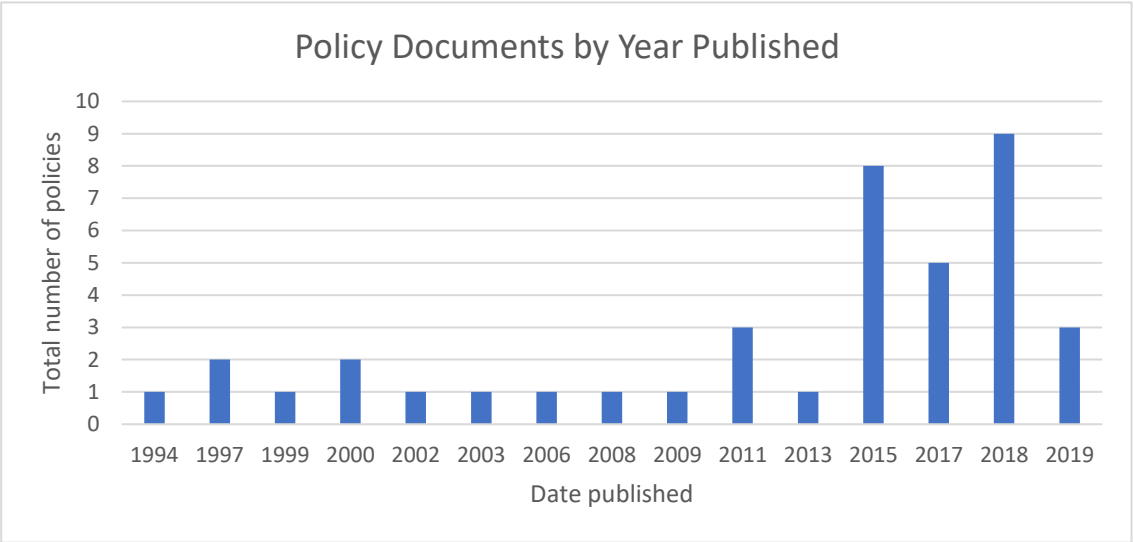
Figure 4.2: Document flowchart



Characteristics of policy documents

The years 2018 and 2015 had the highest number of policy documents published (figure 4.3).

Figure 4.3: Dates of Publication of Included Policies



Of the included policy documents, 35 were published by the Department of Health and five were published by the Department of Social Development. Most (24) of the policy documents were published by national departments, while ten were produced by the Eastern Cape provincial departments and one by the OR Tambo district municipality (table 4.2). The policy documents largely addressed the various health system programmes (for example Programme Seven relates to Health Care Support Services) and priorities of the departments (for example providing bursaries to health sciences students) within each policy document. There were however eight policy documents which related specifically to disability and rehabilitation services (table 4.3).

Table 4.2: Policies by Government Administrative Level

Policy Documents	**Total Number**
South Africa (national)	29
Eastern Cape (provincial)	10
OR Tambo (district)	1
Total	40

Table 4.3: Disability and Rehabilitation Specific Policies

Policy Document	Date	Department
Integrated National Disability Strategy White Paper	1997	Social Development
National Rehabilitation Policy	2000	Health
Standardisation of Provision of Assistive Devices in South Africa	2003	Health
Policy on Disability	2009	Social Development
Framework and Strategy for Disability and Rehabilitation Services in South Africa	2015	Health
National Development Plan 2030 Persons with Disabilities as Equal Citizens	2015	Social Development
National Disability Rights Policy	2015	Social Development
White Paper on the Rights of Persons with Disabilities	2015	Social Development

The findings are reported according to the WHO health systems building blocks (WHO, 2007) and they describe what the policies dictate at the national, Eastern Cape provincial and OR Tambo district levels as it relates to rehabilitation services for adults. The Eastern Cape Provincial Department of Health and the OR Tambo district municipality formulate strategic plans and operational guidelines to inform and guide the implementation of a contextual iteration of national objectives at provincial and district levels.

4.3.1 Service delivery: Organisation of Services

The *Integrated National Disability Strategy* articulates that rehabilitation services enable people with disabilities to achieve optimal levels in the domains of physical, sensory, intellectual and societal functioning (Office of the Deputy President, 1997). South Africa's *National Development Plan 2030* emphasises universal health coverage (UHC) as a mechanism to ensure that people with disabilities achieve optimal health including providing access to rehabilitation services and appropriate assistive devices (Department of Social Development, 2015c). Under South Africa's UHC plan rehabilitation services will be part of the package of services which will be included for

the whole population, with vulnerable populations being prioritised (Department of Health, 2017b). Paragraph 109 of this UHC White Paper, the *National Health Insurance for South Africa*, states that the provision of rehabilitation services will include assistive devices such as prostheses and devices which facilitate mobility. Moreover, under paragraph 99, there is a recognition of the need to address rural areas, which is a means to achieving equity in health care since rural areas continue to be disadvantaged in accessing healthcare in South Africa (Department of Health, 2008, 2017b). Specifically, the national *Ideal Hospital Realisation and Maintenance Framework* states that the package of rehabilitation services offered should be physiotherapy, occupational therapy, speech and language therapy, audiology and orthotics and prosthetics services (Department of Health, 2018c). The need to improve access to rehabilitation services for people with disabilities is further affirmed in the *National Health Strategic Plan* as a strategic objective through the implementation of the *Framework and Strategy for Disability and Rehabilitation Services*, thus reiterating the commitment of the South African Department of Health to providing rehabilitation services (Department of Health, 2015f; National Department of Health, 2015).

Rehabilitation services are intended to be integrated into the health system by being available at all levels of the health system, from the primary health care level to higher and more specialised levels of care, with appropriate follow-up post discharge from the health facility at the community level (Office of the Deputy President, 1997; National Department of Health, 2000). The *Framework and Strategy on Disability and Rehabilitation* specifies that this integration into the health system will be across the priority health programmes related to maternal and child health, district health services, HIV/AIDS, tuberculosis, health promotion, nutrition, mental health and substance abuse, and human resources (National Department of Health, 2015). Further, the *National Core Standards for Health Establishments* state that effective rehabilitation services should be provided by a multi-disciplinary team (Department of Health, 2011b). The organisation of rehabilitation services should begin at the level closest to where individuals live, that is clinics or community health centres (known collectively as primary healthcare facilities), with referral mechanisms facilitating access to

higher levels of care, such as district and regional hospitals (Department of Social Development, 2016; Department of Health, 2017b).

National policy specifies where the service delivery of rehabilitation should take place. First, the *District Hospital Service Package for South Africa* and the *Policy on Disability*, state that services are intended to be provided within the health facility in the form of in-patient and out-patient services (Department of Health, 2002; Department of Social Development, 2009). Second, the same policies state that service delivery should also occur at the community level in the form of outreach services in order to facilitate the re-integration of people with disabilities into their communities. However, element 44 of the *Ideal Hospital Realisation and Maintenance Framework* is inconsistent with existing policies in that it states that outreach services at district hospitals should only be provided by doctors in the disciplines of medicine, surgery, obstetrics, ophthalmology, paediatrics, psychiatry, ENT and orthopaedics, and excludes this requirement for rehabilitation services (Department of Health, 2018c). Yet the *National Core Standards for Health Establishments* establishes that outreach services should be provided by all clinical staff, not only doctors, in the health facilities' catchment area (Department of Health, 2011b). In order to ensure that people with disabilities are aware of the available rehabilitation services in their catchment area, the *Policy on Disability* states that an effective communication strategy should be in place to overcome information barriers related to rehabilitation service availability (Department of Social Development, 2009). Once individuals arrive at a health facility, the standard waiting time for services in a district hospital should be no longer than two hours per visit, according to the *Patient Waiting Time Policy* (Department of Health, 2015d).

While the national Department of Health provides overarching national policies, it is the responsibility of provinces and districts to interpret and formulate province and district policies which are informed by the national policies. Under the *Eastern Cape Provincial Health Act*, legislation affords the Minister of the Executive Committee (MEC) for Health of the province the

authority and responsibility to determine the provincial health policy as well the relevant requirements for implementing it. Specifically, chapter five and section six of the Act obligates the MEC to provide the required infrastructure for health service delivery, subject to the availability of relevant resources (Department of Health, 2000). The province of the Eastern Cape has a Strategy which defines the focus areas and operational plans which have goals and targets to operationalise the strategy.

At a provincial level, the *Eastern Cape Provincial Health Act* of 1999 legislates under section 13 the entitlement of all individuals to comprehensive health care services across all levels of the provincial and district health system (Department of Health, 2000). Further there is an emphasis in the *Eastern Cape Provincial Health Act* on the equitable provision of health services (Department of Health, 2000). To achieve equity, there needs to be a mechanism in place to determine needs across the population so that progress can be measured. However, in the case of rehabilitation services, the *Eastern Cape Provincial Health Act* does not establish how need will be determined in order to measure and achieve equity. Nevertheless, the *Eastern Cape Strategic Health Plan* and the related *Operational Plans* provide for the availability of rehabilitation services primarily under "Programme 7", which is the "Health Care Support Services" programme, the goal of which includes the provision of rehabilitation, orthotic and prosthetic services (Department of Health, 2015a; Eastern Cape Department of Health, 2019). Though not widely stated, rehabilitation services are also encompassed within "Programme 2", which relates to the "District Health Services" programme through the provision of community-based services for non-communicable diseases. The eight priority areas appear as programmes and are listed in table 4.4. The *OR Tambo District Health Plan* only states that rehabilitation services should be available as an intervention for addressing morbidity in non-communicable disease, and this is for those aged 40 years and over (Department of Health, 2018e).

Table 4.4: Policy priority areas of the Eastern Cape Provincial Department of Health

Priority Area	
Programme 1	Health Administration and Management
Programme 2	District Health Services
Programme 3	Emergency Medical Services
Programme 4	Provincial Hospital Services (Regional and Specialised)
Programme 5	Central and Tertiary Hospitals
Programme 6	Health Sciences and Training
Programme 7	Health Care Support Services
Programme 8	Health Facilities Management

Source: (Eastern Cape Department of Health, 2019)

Health System Integration and Target Population

The policies provide varying degrees of guidance on aspects relevant to rehabilitation service delivery. First, what the national and provincial policies articulate with clarity is that rehabilitation services should be available and integrated across all levels of the health system. This is demonstrated by *the White Paper on the Rights of Disabilities*, the *Eastern Cape Provincial Health Act* and the UHC plan, which stipulate that they will be included in the package of services. It is also important to note that in the policy documents reviewed, disability and rehabilitation are closely linked. In the policy documents, rehabilitation is consistently mentioned in relation to people with disabilities rather than the wider population, including in the documents which are not rehabilitation specific. This emphasises that people with disabilities are viewed as the primary target population in South Africa. In reality though, not all people with disabilities require rehabilitation services and the users of rehabilitation services are not only those with disabilities. This suggests that the rehabilitation needs of the wider population are not being recognised. Given that people with disabilities are the target population for rehabilitation services in the documents reviewed, the need for rehabilitation services and the provision thereof should be informed by data on the prevalence and rehabilitation needs of people with disabilities in the catchment area.

Limited Guidance on Outreach Services

Second, although the national policy documents indicate that rehabilitation services should be provided on an outreach basis closer to the community level, this does not appear to be articulated

in the Eastern Cape provincial plans. Provincial plans are intended to provide an iteration of the national policies which takes into account specific details about the province. For instance, as the Eastern Cape has a large rural population and barriers to rehabilitation services are well established, outreach services would fill this gap by addressing the barrier of long distances to health facilities. Furthermore, while national polices indicate the need for outreach services and suggest a range of five to ten clinics to be supported, they neither specify how regularly these services should be provided nor the proportion and distribution of clinics and community health centres relative to the population catchment area that should benefit from outreach services.

Gap in Rehabilitation Governance

Third, what is not addressed in the policy documents is capacity building with regard to managers of rehabilitation services. Managers of rehabilitation services are important for the role they play in planning, organising and delivering rehabilitation as a service, as well as engaging with relevant data to inform priority setting in accordance with what the policies dictate. The policies address to varying extents the components of human resources, financing, assistive technologies, information systems, all of which contribute to service delivery. However, they do not address the governance aspect of rehabilitation services in a way that ensures that rehabilitation services achieve their intended outcomes in line with policies and in response to population needs.

A summary of the findings related to rehabilitation service delivery are presented in table 4.5.

Table 4.5: Summary findings of policy guidance on rehabilitation service delivery

What policy documents specify	**Areas of limited policy guidance**	**Areas with a lack of policy guidance**
Rehabilitation services should be available for no-fee throughout the public health sector. Rehabilitation services include physiotherapy, occupational therapy, speech and language	Outreach rehabilitation services to clinics and community health centres	Capacity building regarding rehabilitation managers

therapy, audiology and orthotics and prosthetics services. People with disabilities are a target population for rehabilitation services. Assistive device provision should be included as part of rehabilitation services		

4.3.2 Service delivery: Infrastructure

According to the *Integrated National Disability Strategy White Paper*, there should be no barriers to accessing various aspects of society for the South African population, and all government departments should ensure that their buildings are accessible to people with a variety of abilities and needs (Office of the Deputy President, 1997). The *National Human Resources Plan for Health* and the *National Core Standards for Health Establishments* commit the department of health to ensuring that the health facilities in which health services are rendered are planned to enable health professionals to render services which meet the needs of the population (Department of Health, 2006, 2011b). Further, article nine of the *White Paper on the Rights of Persons with Disability* places a legal obligation on the state to ensure accessibility of state facilities to people with disabilities, highlighting the built environment as well as information and communication (Department of Social Development, 2016). However, at the time of the *White Paper on the Rights of Persons with Disability*, no design standards for achieving accessibility had been developed. Accordingly, in the *Health Sector Strategic Framework*, the department of health set a target that by the year 2003, 60% of health facilities should be accessible to people with disabilities (Department of Health, 1999).

The *National Rehabilitation Policy* states that rehabilitation services should be accessible to those that require them at all levels of care, and highlights rural and marginalised populations as a priority

(National Department of Health, 2000). Further, the *National Rehabilitation Policy* states that one of the mechanisms to achieving accessibility is by having a dedicated budget for the provision and maintenance of the facilities in which rehabilitation services are rendered (National Department of Health, 2000). Under the *District Hospital Service Package for South Africa*, rehabilitation services should have a dedicated area in which to provide rehabilitation services (Department of Health, 2002). Moreover, the same policy specifies that accessibility should relate to beds, bathrooms, toilets, the physical health facility environment, communication and information.

The national *Framework and Strategy for Disability and Rehabilitation* highlights key gaps relating to rehabilitation services infrastructure. It states the need to review existing standards of accessibility in health facilities as it relates to communication, signage, information and the physical environment (National Department of Health, 2015). As a response, *the Ideal Hospital Realisation and Maintenance Framework* provides the most comprehensive standards related to infrastructure relevant to rehabilitation services in health facilities (Department of Health, 2018c). This national document is intended primarily for district hospitals, though other categories of health facilities may draw from it. Specifically, element 18 of the standards relates to access for persons with wheelchairs by reviewing the presence of ramps, handrails, elbow taps and accessible toilets (Department of Health, 2018c). However, the standards do not specify the appropriate dimensions, such as length, height and incline, for these structures, which are key in actualising accessibility. Element 43 addresses privacy during consultations by reviewing whether patients in the health facility are consulted behind closed doors, curtains or screens which maintain privacy. Element 207 addresses whether the health facility has sufficient space for all departments. It is emphasised that what determines 'sufficient' will vary with each health facility department since staffing needs, equipment and patients seen may result in different space requirements for each service in the health facility. Furthermore, there are provisions made that there should be disabled parking spaces. Element 232 makes provisions that there should be functional telephones which enable both internal and external calls in all health facility departments. Elements 234 and 236 make

provisions that there should be functional computers and internet respectively in all health facility departments.

At the level of the province, neither the *Eastern Cape Strategic Plan*, the *Eastern Cape Operational Plans* nor the *OR Tambo District Health Plan* set goals or objectives related to infrastructure relevant to rehabilitation services (Department of Health, 2015a, 2018e; Eastern Cape Department of Health, 2017, 2018, 2019). Therefore, despite the national policies and mandates, at a sub-national level, neither provincial nor district policies address infrastructure relevant to rehabilitation services. The extent to which accessibility of rehabilitation services is addressed in South Africa's policies has limitations.

Accessibility is a Priority

First, the accessibility of health facilities for people with disabilities is a priority for the department of health and this is demonstrated by the inclusion of a checklist to assess the accessibility of various service areas in health facilities. Further accessibility is articulated as a right which the government has a legal obligation to meet. However, while accessibility is articulated as a priority in policy documents, a narrow definition of accessibility limited to mobility disability is adopted. The checklist assesses the presence and absence of ramps, handrails and toilets and does not include items related to signage and appropriate physical spaces for those with visual impairments, or sign-language interpreters for deaf people, for instance.

Absence of Standards

Second, while the checklist for accessibility is an important step in assessing the extent to which health facilities are accessible, it is limited by the absence of corresponding standards to assess what constitutes an accessible toilet, ramp, handrails or parking. Measurable dimensions for items of accessibility are important to ensure an objective assessment regardless of who the assessor is and may also enable an actionable intervention in the event that one item is deemed to not meet the criteria. Table 4.6 presents a summary of the policy guidance on accessibility.

Table 4.6: Summary findings of policy guidance on accessibility

What policy documents specify	Areas of limited policy guidance	Areas with a lack of policy guidance
Accessibility for people with disabilities is a priority. 60% of all health facilities to be accessible by the year 2003. Accessibility relates to treatment beds, bathrooms, private treatment areas, rails and ramps.	Accessibility is limited to mobility disabilities to the exclusion of other types of disabilities	Standards to actualise accessibility of health facilities

4.3.3 Workforce

A key component of realising rehabilitation policy aspirations is the availability of a skilled rehabilitation workforce as agents of service delivery. The Department of Health is the government agency tasked with the mandate of the provision of rehabilitation services within the health sector (National Department of Health, 2000). In order to ensure that disability and rehabilitation are prioritised at the national level, the *National Rehabilitation Policy* recommends that there be the relevant roles at both the national and provincial levels of government (National Department of Health, 2000). The *National Rehabilitation Policy* further states that the workforce required for the provision of rehabilitation services includes physiotherapists, occupational therapists, speech and language therapists and audiologists. The *District Hospital Service Package* and the *Ideal Hospital Realisation and Maintenance Framework* add to the *National Rehabilitation Policy* by stipulating that this workforce should be available at district hospitals, and that orthotists and prosthetists should be available via referral from the district hospital (National Department of Health, 2000; Department of Health, 2002, 2018c). Furthermore, for those completing their one year as Community Service officials, the *National Human Resources Plan for Health* states that there should be appropriate supervision for these newly trained individuals, especially those working in under-served areas (Department of Health, 2006).

The *National Rehabilitation Policy* and the *National Human Resources Plan for Health* dictate that rehabilitation providers should be distributed in a way that ensures both equity and maximum coverage (National Department of Health, 2000; Department of Health, 2006). Not only must the workforce be optimally distributed, but the *Human Resources for Health Strategy for the Health Sector* additionally states that the supply of the workforce should be reliable, with an emphasis on recruitment and retention (Department of Health, 2011a). There is a distinct emphasis in the aforementioned policy on increasing the availability of the whole health workforce in general but also specifically in rural or remote areas (Department of Health, 2011a). One strategy to do this as stated in the *Human Resources for Health Strategy for the Health Sector* is to ensure that Community Service post holders are largely employed in rural areas rather than in urban areas, but with the necessary professional support (Department of Health, 2011a). Regarding the geographical distribution of the workforce, the *Human Resources for Health Strategy for the Health Sector* also states that the distribution of the health workforce should focus on optimising the coverage of rehabilitation services across the target population (Department of Health, 2011a). According to the *National Rehabilitation Policy* and the *Human Resources for Health Strategy for the Health Sector*, improving the distribution of the workforce will be done through filling available posts and creating additional ones, with under-served areas being prioritised (Department of Health, 2011a).

Based on the Workload Indicators Staffing Need (WISN) method, the *Implementation Guideline of Health Workforce Normative Guides and Standards* states that each rehabilitation provider should provide outreach services to five to ten clinics or community health centres, depending on the number of hours that the clinics and community centres are operating (Department of Health, 2015b). The standards as found in the *Ideal Hospital Realisation and Maintenance Framework* state that the posts of physiotherapists and occupational therapists should be filled according to the findings from the WISN assessment in district hospitals; however, speech and language therapists and audiologists are excluded from this list (Department of Health, 2018c).

While the *National Human Resources Plan for Health* and *Human Resources for Health Strategy for the Health Sector* state that an important component of planning for human resources is to have norms and standards for the optimal numbers of the health workforce at tertiary regional and district hospitals, none exist for rehabilitation providers (Department of Health, 2006, 2011a). Several years after the publication of the *National Human Resources Plan for Health* and *Human Resources for Health Strategy for the Health Sector*, in 2015, the *Framework and Strategy for Disability and Rehabilitation* again highlighted the need to develop norms and standards for rehabilitation services, specifically for workforce, infrastructure and equipment, and the need to ensure that related targets are articulated (National Department of Health, 2015).

Once rehabilitation providers are employed by the Department of Health and distributed in health facilities, an important aspect of capacitating the existing workforce is that of continuously developing the skills of the rehabilitation workforce. The *National Health Strategic Plan* and the *Human Resources for Health Strategy for the Health Sector* recognise that in-service training and continuing professional development in each district are ways to achieve this (Department of Health, 2011a, 2015f). Another aspect of capacitating the workforce as stated in the *Framework and Strategy for Disability and Rehabilitation*, is to improve the awareness, knowledge and attitudes of the health workforce regarding disability, through sensitisation workshops (National Department of Health, 2015). The *National Rehabilitation Policy* also highlights the need to ensure that a distinct career path exists as the skills and capabilities of the rehabilitation providers improve (National Department of Health, 2000). The distribution of the rehabilitation workforce is highly dependent on the numbers of rehabilitation trainees which are being produced to begin with. Therefore, it is important to understand what South Africa's policies state regarding the training of the rehabilitation workforce.

Chapter four of the *White Paper for the Transformation of the Health System* identifies the training of occupational therapists and physiotherapists as a training priority (Department of Health, 1997).

According to the *National Rehabilitation Policy*, the training curriculum of rehabilitation providers should enable qualified rehabilitation providers to work in a variety of settings (National Department of Health, 2000). Since language is an integral part of rehabilitation for speech and language therapists and the majority of South Africa's population is black, the *National Rehabilitation Policy* also states that black individuals should be prioritised in the training in order to prevent language barriers which may hinder rehabilitation (National Department of Health, 2000). The training of rehabilitation providers itself is the jurisdiction of the Department of Higher Education and Training, specifically within health sciences faculties, while the department of health employs graduated trainees. Therefore the *Human Resources for Health Strategy for the Health Sector* emphasises the need for collaboration between the Department of Health and the Department of Higher Education and Training in increasing the quantity of available rehabilitation providers (Department of Health, 2011a). Accordingly, in preparation for the implementation of the UHC plan, the *NHI Implementation Structures, Institutions and Bodies to be established* document states in detail that a national governing body on human resources for health will be established to ensure that both of the government departments involved in successfully training rehabilitation providers collaborate on relevant policy formulation and implementation (Department of Health, 2017c).

Since training the health workforce is a key priority, in the national *Annual Performance Plans*, there is a sub-programme that deals specifically with the medium-to-long term planning for the human resources required to meet the health needs of the country (Department of Health, 2017a). The specific objectives of this sub-programme are to increase the quantity of health professionals, develop staffing norms and provide in-service training of the health workforce (Department of Health, 2019a). While there are specific objectives, strategies and targets that relate to the training of medical and nursing trainees, there is no mention of rehabilitation trainees in any of the Annual Performance Plans. Further, regarding rural areas, the *Human Resources for Health Strategy for the Health Sector* identifies the targeted provision of bursaries to students from rural and

disadvantaged backgrounds as a strategy to increase the number of healthcare trainees (Department of Health, 2011a). This is because trainees from rural areas are believed to be more likely to return to rural areas to work compared to those from urban areas. A focus on rural areas is particularly relevant for the Eastern Cape province because the majority of the province's population resides in rural areas.

At a provincial level, the Eastern Cape also creates *Annual Performance Plans*, and these are articulated as eight "Programmes" or priorities. Drawing from the national *Annual Performance Plans*, the provincial administration articulates the training of the health workforce as a distinct programme. "Programme Six" relates to "Health Sciences and Training" and its purpose is to "develop a capable health workforce for the Eastern Cape provincial health system as part of a quality people value stream"(Department of Health, 2019b). However, similar to the national *Annual Performance Plans*, the provincial *Annual Performance Plans* do not include training objectives, strategies or training for rehabilitation providers. What it does stipulate and allocate funding for relates to increasing the trainee numbers of medical, nursing and pharmacy students by 10% per year and to provide bursaries for first year nursing and medical students (Provincial Department of Health, 2018; Department of Health, 2019b). Not only is this exclusion of training needs for rehabilitation trainees seen in the provincial *Annual Performance Plans* but it is exemplified in the overarching five-year *Eastern Cape Health Strategic Plan* and the corresponding *Operational Plan* (Department of Health, 2015a; Eastern Cape Department of Health, 2019). In practice, though, rehabilitation trainees are being trained and funded by bursaries from the department of health. However, what the policies suggest is that the numbers of rehabilitation trainees on department of health bursaries are not being monitored under the "Health Sciences and Training" priority. This suggests that there is no strategic planning being applied to the sustained development and monitoring of the rehabilitation workforce in the Eastern Cape. While "Programme Six" relates to the numbers of rehabilitation providers entering professional practice,

an equally important aspect to explore is the extent to which South Africa's policies prioritise rehabilitation providers staying in public sector practice, that is, retention.

Regarding retention, much of what is stipulated in the policies relates to the use of financial incentives to encourage retention in the public health sector. The *Human Resources for Health Strategy for the Health Sector* states that incentives will be used to ensure that health workers are retained in the public sector (Department of Health, 2011a). In particular, this policy document states that the Occupation Specific Dispensation (OSD), which is a financial incentive whose aim was to improve the salary packages over time of professions working in the public sector, will be reviewed (Mahlathi, 2009; Department of Health, 2010). Additionally, for those health professionals working in rural areas in the public sector, they are entitled to a rural allowance, which is an additional proportion added to their salary. Recognising that financial incentives may not be adequate to guarantee the retention of health workers, the *Human Resources for Health Strategy for the Health Sector* also states the objectives to conduct surveys to determine the propensity of existing health workers to remain as well as to interview employees who have left to understand contributing factors to their leaving (Department of Health, 2011a). Moreover, in order to ensure that those who do remain in the public health sector are performing their roles well, the *Eastern Cape Operational Plan* dictates that all employees sign performance agreements (Eastern Cape Department of Health, 2019). These performance agreements then establish the basis for assessing the performance of the workforce according to the Performance Management and Development System.

Core Rehabilitation Workforce

The policies provide guidance on aspects relevant to the rehabilitation workforce to varying degrees. First, the *National Rehabilitation Policy* and the *Framework and Strategy for Disability and Rehabilitation* provide clarity on what constitutes the core rehabilitation workforce, namely audiologists, occupational therapists, orthotists and prosthetists, physiotherapists and speech and

language therapists (National Department of Health, 2000, 2015). The implication is that since rehabilitation services are intended to be available at all levels of the health system, the full complement of the core rehabilitation team should be available in clinics and community health centres through outreach, and at district, regional and tertiary hospitals.

Community Service Officers in Rural Health Facilities

Second, according to the *National Human Resources Plan for Health* and the *Human Resources for Health Strategy for the Health Sector*, Community Service officers, professionals in their first year of work, are seen as a means to address the staffing needs in rural hospitals in South Africa. While the *National Human Resources Plan for Health* states that rehabilitation community service post holders will be placed in rural areas, it is not clear what kind of support will be provided beyond stating that it will be personal and professional. Rural health facilities tend to experience more challenges in terms of availability of resources to perform clinical work.

Unknown Standards for Workforce Numbers and Distribution

Third, what remains unclear from the policy documents reviewed is what the optimal numbers and distribution of the rehabilitation workforce should be across health facilities. What further exacerbates the lack of standards for the workforce is that the need for rehabilitation services is also unknown. The Department of Health advocates for the use of the WISN method to inform planning related to the health workforce. However, the WISN method relies on the ability to quantify the current workload based on the utilisation of services (WHO, 2010b). Such a method that is based on workload to estimate future needs assumes that current coverage of services is wide, and that utilisation is relatively high. As people with disabilities are known to encounter multiple barriers when accessing rehabilitation services, it is likely that their utilisation of rehabilitation services may be low, and thus the WISN method may underestimate the required quantity of rehabilitation providers.

Gaps in Workforce Planning and Development

Fourth, retention is ultimately a function of the numbers that get trained, how they get distributed and, once distributed, their experience and performance in the workplace. Therefore, gaps in any of these stages in the development of the rehabilitation workforce are likely to compromise the retention of the workforce in the public health sector. In the policies reviewed both at the national and Eastern Cape provincial level, there is no stated prioritisation of the training and funding for rehabilitation providers. Moreover, as already mentioned, there are no standards to inform the distribution of rehabilitation providers once the trainees complete their training. Additionally, the policies have gaps related to how incentives, beyond financial incentives, should work to improve the retention of rehabilitation providers. These policy gaps in critical areas of the development of the rehabilitation workforce suggest that there is no clear policy imperative in South Africa and the Eastern Cape relating to sustained efforts to plan for and develop the rehabilitation workforce over time.

A summary of the findings related to the rehabilitation workforce are presented in table 4.7.

Table 4.7: Summary findings of policy guidance on the rehabilitation workforce

What policy documents specify	**Areas of limited policy guidance**	**Areas with a lack of policy guidance**
The full complement of the core rehabilitation workforce should be available in health facilities. The core rehabilitation workforce consists of physiotherapists, occupational therapists, speech and language therapists, audiologists, and orthotists and prosthetists.	Content of support for community service level rehabilitation providers	Training and funding for workforce planning and development of rehabilitation providers Workforce standards for optimal density and distribution for rehabilitation providers Retention strategies beyond financial incentives for rehabilitation providers

4.3.4 Assistive Technology & Financing

According to the *Integrated National Disability Strategy*, appropriate and affordable assistive devices are seen as ways to facilitate the active participation of people with disabilities in society, and thus they are linked to their rights in South Africa (Office of the Deputy President, 1997). Under South Africa's *National Development Plan 2030*, people with disabilities should have access to assistive devices and, in the public sector, this should be guided by the relevant policy (Department of Social Development, 2015b). The *National Rehabilitation Policy* and the *National Human Resources Plan for Health* dictate that under the leadership of the National Department of Health, a dedicated budget be allocated for all components of rehabilitation services and that this budget should make provisions for assistive devices, equipment and materials at all primary, secondary and tertiary levels of care (National Department of Health, 2000; Department of Health, 2006). According to the *National Rehabilitation Policy* and the *National Human Resources Plan for Health* not only must all types of assistive devices and equipment be available, but there needs to be resources allocated for the maintenance of equipment and the repair of assistive devices for people with disabilities at all levels of care (National Department of Health, 2000; Department of Health, 2006). Moreover, there are no limits to how often users may request repairs for assistive devices unless they are not being appropriately cared for by the user (Department of Health, 2003).

The allocation of resources at all levels of care also extends to assistive devices which need to be hand-made by rehabilitation providers (Department of Health, 2003). Specifically, the objectives of the *National Rehabilitation Policy* and the *Policy on Disability* include addressing the backlog of assistive devices and ensuring that there are rehabilitation providers who are trained to provide training on the use and issue of these devices to individuals who require them (National Department of Health, 2000; Department of Social Development, 2009). The national *Framework and Strategy for Disability and Rehabilitation* further affirms the need to improve access to appropriate assistive devices and the relevant accessories (National Department of Health, 2015).The *Standardisation of Provision of Assistive Devices in South Africa* provides a detailed

account of what the state should make available as it relates to assistive devices. Under this national guideline, an emphasis is placed on the appropriately skilled provider making the assessment and prescribing assistive devices (Department of Health, 2003). For instance, audiologists are recognised as the skilled providers for fitting and issuing hearing assistive devices. According to the *Standardisation of Provision of Assistive Devices in South Africa*, assistive devices should be immediately available to the user at the time of discharge from a health facility (Department of Health, 2003). In addition, where an item is not immediately available because it needs to be specifically ordered for the individual, there should be assistive devices which are temporarily issued to people with disabilities. In the event that a health facility cannot provide this service, the service is to be contracted out to another service provider (Department of Health, 2003). Special provision is made in the *Standardisation of Provision of Assistive Devices in South Africa* about granting individuals with quadriplegia or tetraplegia motorised wheelchairs, provided that the state has resources available and the user fulfils the relevant criteria (Department of Health, 2003). Under the aforementioned policy, augmentative and alternative communication devices should be available only at the tertiary level of care (Department of Health, 2003).

At provincial and district levels, areas of focus for the department of health are articulated in eight "Programmes" as previously mentioned. The provision of rehabilitation Services form part of "Programme Two" which is the "District Health Services", under which district hospitals are governed (Department of Health, 2015a). The provision of assistive devices forms part of "Programme Seven". For each programme, there are resources allocated (Department of Health, 2015a). Resources for the provision of rehabilitation services are funded under the allocation for district hospitals, with resources for the provision of assistive devices, namely wheelchairs, hearing aids, orthotics and prosthetics, funded under the allocation of orthotics and prosthetics. Under the provincial *Standardisation of Provision of Assistive Devices in South Africa* and *Eastern Cape Operational Plans* over a three-year period, the goal is for 95% of all individuals eligible for assistive

devices be provided with the appropriate wheelchair, hearing aid, orthotic or prosthesis (Department of Health, 2015a; Eastern Cape Department of Health, 2017, 2018, 2019)

The *OR Tambo District Health Plan* re-articulates national and provincial policy by stating that assistive devices should be available, such as wheelchairs, but notes that this is for those 40 years and older (Department of Health, 2018e). Even so, the District *Hospital Service Package for South Africa* further affirms that district hospitals should supply and repair assistive devices and facilitate access to orthotic and prosthetic devices as a norm for all individuals (Department of Health, 2002). The *District Hospital Service Package for South Africa* provides a list of equipment which should be available at all district hospitals (Department of Health, 2002). Another national document which provides a list of equipment and consumables that should be available in clinics and community health centres is the *National Health Commodities Catalogue for Primary Healthcare Facilities* (Department of Health, 2018d). However, the scope of the provision is narrow. While "Programme Seven" is intended to address the provision of assistive devices, it only includes wheelchairs, hearing aids, orthotics and prosthetics. Rehabilitation professionals may prescribe a variety of assistive devices not limited to these four. For example, no communication assistive devices are specified despite the presence of speech and language therapists in public health facilities. In addition, the *National Health Commodities Catalogue for Primary Healthcare Facilities*, which has a list of assistive devices which may be obtainable through the public health sector, is said to be for primary health care facilities, namely clinics and community health centres. This is unclear as the *District Hospital Service Package for South Africa*, *Policy on Disability and the National Core Standards for Health Establishments* state that rehabilitation providers are intended to provide outreach services to the primary health care facilities rather than being employed at these facilities (Department of Health, 2002, 2011b; Department of Social Development, 2009). The list may be adapted for use in district hospitals, but it is not clear how the needs for assistive devices may differ between district hospitals and primary health care facilities.

South Africa's policies address the availability of assistive devices in the public sector to varying degrees, but some important areas remain unaddressed in the policies relating to the narrow scope of assistive devices included in the policy documents. What is clearly articulated in national and provincial policies, though, is that the department of health is responsible for the provision of assistive devices. Moreover, the policies state that resources should be allocated for the procurement of assistive devices, equipment and materials such as consumables.

A summary of the findings related to assistive technology are presented in table 4.8.

Table 4.8: Summary findings of policy guidance related to assistive technology

What policy documents specify	**Areas of limited policy guidance**	**Areas with a lack of policy guidance**
Assistive devices should be available at health facilities. Assistive devices should be provided by skilled rehabilitation providers. Financing should be available for wheelchairs, hearing aids, orthotics and prosthetics in health facilities. Rehabilitation consumables and equipment should be available in health facilities.	Assistive devices related to communication and activities of daily living "Programme Seven" resource allocation of other types of assistive devices related to mobility, communication and activities of daily living.	n/a

4.3.5 Health Information Systems

An integral part of knowing whether the combination of the workforce, infrastructure, and availability of assistive technologies is effective is being able to evaluate the performance of the service. The *National Rehabilitation Policy* states the need to develop strategies to monitor and evaluate rehabilitation services in order to identify problems, determine effectiveness and inform how the services are planned and organised (National Department of Health, 2000). Additionally,

the *Standardisation of Provision of Assistive Devices* states that there should be a thorough record kept by health facilities on the assistive devices that are issued, repaired and recycled, and that this should inform future allocation of resources for assistive devices (Department of Health, 2003). Health information systems, according to the *National Human Resources Plan for Health*, are also seen as facilitating the planning and development of human resources so that the available human resources match the needs for health services (Department of Health, 2006). The *Policy on Quality in Health Care* states that investments must be made in appropriate health information systems which identify areas of improvement and the performance of health facilities so as to enable comparisons between health facilities (Department of Health, 2008). This policy further states that in order for this to take place, there is a need for the catchment to be mapped regarding the needs of the population and how the health facility is equipped to respond to those needs. There is also the need for a clinical audit which evaluates how the service performs with respect to standards (Department of Health, 2008). The *Framework and Strategy for Disability and Rehabilitation* re-iterates the need to develop and implement a framework for monitoring and evaluation in rehabilitation services as one of the policy's goals (National Department of Health, 2015). The two performance areas consistently articulated in the national *Annual Performance Plans* related to disability and rehabilitation are access to assistive devices and the accessibility of clinics and community health centres (Department of Health, 2017a, 2018a, 2019b). First, access to assistive devices is measured as the proportion of those who have been assessed and found eligible to receive assistive devices. Second, accessibility of clinics and community health centres is measured as the proportion of these facilities which adhere to the standards for ramps, compacted access from the gate to the entrance of the facility, toilets and signage.

Provincially, the *Eastern Cape Provincial Health Act* specifies the need to develop the district health information system in order to regulate and monitor health services provided within the province (Department of Health, 2000). The one indicator as it relates to disability and rehabilitation in the *Eastern Cape Annual Performance Plans* is access to assistive devices (Provincial Department of

Health, 2013, 2017, 2018). The provincial department of health sets a target aligning with that of the national guidelines of 95% access to hearing aids, wheelchairs, orthotics and prosthetic devices and of those identified as needing these devices receiving them (Eastern Cape Department of Health, 2019). The need for assistive devices is determined based on those assessed as eligible for receiving an assistive device at the relevant health facility (Provincial Department of Health, 2018). The *OR Tambo District Health Plan* includes no targets or indicators related to rehabilitation services but states the overarching goal of a reduction in morbidity due to non-communicable diseases (Department of Health, 2018e). The national and sub-national policies address the health information systems related to rehabilitation to varying extents but there are also gaps in the policies.

Targets for Meeting Assistive Device Needs

First, what both the national and provincial policies articulate with clarity are the indicators used for assessing the numbers of individuals who, once assessed as needing hearing aids, wheelchairs, orthotics or prosthetics, receive them. This clarity is demonstrated in the defined numerator and denominator for the calculation of the proportions who receive the devices. Moreover, these targets are time bound with dates by which they need to be achieved.

Narrow Indicators of Accessibility

Second, while accessibility for primary health facilities (clinics and community health centres) and district hospitals may be measured using an itemised checklist, there are no standardised measurements for what the dimensions of ramps, handrails and toilets should be. The implication is that results of accessibility may differ for the same health facility depending on who the reviewer is. Secondly, the definition for accessibility which is measured is limited to physical disabilities despite the existence of other disabilities such as visual, hearing, communication and sensory disabilities, which also require appropriate infrastructural accommodations in health facilities. This is significant because people with disabilities are not a homogenous group and therefore by not

measuring across a broad range of disabilities, this approach continues to restrict those with disabilities other than physical disabilities.

Omitted and inadequate Indicators

Third, where the policies are lacking is in the omission of other types of assistive devices such as communication assistive devices. There is a wide variety of assistive devices that are available in the public sector that are not captured in the indicators. This suggests that neither the need nor the meeting of this need is being recorded. Without routinely collected data for the variety of assistive devices that are issued in the public sector, it is difficult to assess what the relative needs are in the catchment population and where additional resourcing of finances and human resources may be required.

Further, assistive devices alone are not an adequate proxy for the performance of rehabilitation services. The proportion of individuals with access to assistive devices does not necessarily reflect the resources allocated to assistive devices (inputs) and the resulting availability of assistive devices (outputs) that can then be issued to individuals. For instance, if the target of 95% is not achieved, it is unclear what that could be attributed to if inputs and outputs are not routinely measured. By measuring rehabilitation inputs and outputs in addition to the outcomes, it informs decision makers and managers about the level of intervention needed to achieve set targets. A summary of the policy guidance on health information systems is presented in table 4.9.

Table 4.9: Summary of policy guidance on health information systems

What policy documents specify	**Areas of limited policy guidance**	**Areas with a lack of policy guidance**
Monitoring and evaluating rehabilitation services is a goal. Routinely collected data on assistive devices should inform resource allocation decisions.	Indicators of accessibility in health facilities are limited to physical accessibility	Indicators relating to communication and self-care assistive devices

Time bound target of 95% of all needs for hearing aids, wheelchairs, orthotics and prosthetics should be met.		

In summary the policy review revealed that there were aspects which were clearly articulated in the policies while others were narrowly specified or absent. Table 4.10 presents the summary.

Table 4.10: Summary of Policy Review Findings

What national and sub-national policy documents state • Rehabilitation Services should be available and not-for-fee in all HF • Full complement of core rehabilitation team should be available in all HF • Outreach to clinics in catchment area should be conducted • All HFs should be accessible to people with disabilities • Assistive devices should be available at health facilities • Financing should be available for wheelchairs and hearing aids in HF • Rehabilitation consumables and equipment should be available in HFs • Rehabilitation workforce numbers should be reliable (retention) • Rehabilitation providers should have support available to perform their roles
What is stated in policy documents but with narrow specification • Assistive devices largely limited to mobility-related and excludes other mobility-related, communication-related, activities of daily living -related • Financing provisions limited to hearing aids, wheelchairs, orthotics and prosthetics • Health Information collected and presented relates to hearing aids, wheelchairs, orthotics and prosthetics only and excludes service-level organization and delivery information
Lack of standards/guidance • Leadership and governance of rehabilitation services • Workforce standards for optimal quantity and distribution • Accessibility standards of health facilities for people with disabilities

Chapter 5: Implementation Gap: Policies and Available Rehabilitation Services

5.1 Introduction

In chapter four, I presented the findings from the exploration of South Africa's rehabilitation policies. Specifically, I sought to review what the national, provincial (Eastern Cape) and district (OR Tambo) policies state regarding the provision of rehabilitation services in the public sector by the government. There were two key findings from the policy review. First, I found that there was a lack of standards to operationalise policy aspirations. Second, where indicators related to policy objectives were included, the indicators were narrow. Considering that there is guidance in the policies, albeit inadequate in some components, this chapter aims to elucidate what the implementation gap is between the rehabilitation policies and the available rehabilitation services in OR Tambo district. I do this by firstly providing an assessment of the rehabilitation services at the level of the health facility with reference to the infrastructure, assistive devices, equipment, consumables and the rehabilitation workforce. Secondly, I draw from the policy review findings from chapter four to describe the existing implementation gap at the level of the health facility.

District Hospitals are critical focal points for the provision of health services, including rehabilitation services, because the South African health system is decentralised to the level of the district (Republic of South Africa, 2004). As such, what happens in district hospitals may provide insights into how policies from national, provincial and district levels are interpreted and translated into practice. Thus the district level provides insights into both the provision of services as well as access to services for a defined population (Health Systems Trust, 2020). Additionally, in the district of OR Tambo in South Africa, while the population first encounters rehabilitation providers at clinics or community centres in the public health sector, rehabilitation providers are employed at district hospitals and provide outreach services to clinics and community health centres episodically. For

this reason, this chapter focuses on rehabilitation services at the district hospital. Table 5.1 presents how health facilities are organised in the South African health system.

Table 5.1: Organisation of health facilities in South Africa's Health System

Clinics and Community health centres	First point of entry into the formal health system
District hospitals	Provides generalist services in the form of in-patient and out-patient care and receives referral from clinics and community health centres
Regional hospitals	Receives referral from district hospitals and provides services to a defined regional population within a province
Tertiary hospitals	Provides specialist-level services and receives referral from regional hospitals from any province. May provide training for healthcare providers
Central hospitals	Provides training for healthcare providers and is connected with health sciences faculties

Source: (Department of Health, 2020)

Given the gap in evidence on the availability of rehabilitation services in rural South Africa, this research addresses the following research question:

"*What does the existing rehabilitation service capacity tell us about the implementation gap between rehabilitation policies and rehabilitation services at the health facility level in OR Tambo district?*"

The objectives of this research are the following:

1. *To assess the accessibility of health facilities' rehabilitation departments for people with disabilities and then describe the policy-implementation gap.*
2. *To assess the capacity for rehabilitation services in health facilities in terms of the availability of equipment, assistive devices, service delivery, and the composition of the rehabilitation workforce, and then describe the policy-implementation gap.*

5.2 Methodology

An accessibility audit and a health facility assessment of the rehabilitation department was conducted in each of the nine district hospitals in OR Tambo district.

5.2.1 Objective 1: Implementation Gap- Accessibility

Accessibility in this thesis is defined as "the degree to which a product, infrastructure, environment or service is available to as many people as possible, and in particular to people with disabilities" (Pregel and Smith, 2019:7). In the context of health facilities, accessibility is of particular importance because accessible facilities enable individuals to enter and navigate the various points of the health visit with independence and ease, so that the individuals can engage with the various health professionals as indicated to address their health and rehabilitation needs. The physical infrastructure of health facilities is therefore a key aspect of access to rehabilitation services (Levesque, Harris and Russell, 2013).

In order to assess the accessibility of the rehabilitation departments, I conducted a cross-sectional quantitative assessment of accessibility for people with physical and sensory disabilities. South Africa's *Ideal Hospital Realisation and Maintenance Framework* contains a section with six questions related to ramps, handrails and toilets (table 5.1) (Department of Health, 2018c). However, this does not meet the definition of what constitutes accessibility. Therefore, for this study, the accessibility audit was conducted using the Sightsavers Accessibility Audit tool which incorporates recommendations for accessibility from countries such as the United States of America, England, Pakistan, Bangladesh and Mozambique [1] (Pregel, Smith and Bridger, 2019). This makes the guidelines more comprehensive by accounting for country differences in disability resources and infrastructure.

[1] The documents which have informed the development of the Sightsavers Accessibility Guidelines include the 2010 Americans with Disabilities Act Standards for Accessible Design, the Approved Document M: Access to and use of buildings from England's Ministry of Housing, Communities and Local Government, the Health Building Note 00-01 General design principles from England's Department of Health and Social Care, the Neufert Architects' Data published in 2012 by Wiley-Blackwell, the Accessibility Code of Pakistan 2006 from the Ministry of Social Welfare and Special Education, the Bangladesh National Building Code from the Housing and Building Research Institute, and the Construction and Maintenance regulations technical devices for accessibility, circulation and use of systems for people with physical disability or conditioned mobility from Mozambique.

Table 5.1: Health facility accessibility checklist in South Africa's national Ideal Hospital Realisation and Maintenance Framework

Checklist Description	Score
1. Ramp to allow access for persons with wheelchairs unless the entrance to the facility has no incline	
2. Ramp has handrails unless the entrance to the facility has no incline	
3. Elbow taps in toilet with access for persons with wheelchairs	
4. Toilets has access for persons with wheelchairs	
5. In the toilet/s with access for persons with disabilities, door handles are at the height of wheelchairs	
6. Handrails are installed in the toilet/s with access for persons with wheelchairs	
Total score	
Total maximum possible score	
Percentage score	

Source: (Department of Health, 2018c:51)

Further, the Sightsavers accessibility audit is strengthened by its consultation and field-testing of the audit tool by members from organisations spanning a variety of disabilities including those related to hearing, vision, and mobility (Pregel and Smith, 2019). This accessibility audit is intended to assess how easily people with physical, hearing and visual disabilities can access a health facility. A limitation of this tool is that it does not address intellectual disability. The tool was originally intended to assess the entire health facility. However, in line with the current study's research questions, I used the tool to assess accessibility from the entry point of the health facility and the coinciding journey to the rehabilitation department that a patient would travel.

The accessibility audit tool consists of six sections with questions for each (appendix 5.1). Responses for each question are binary (Yes/No) or N/A. Table 5.2 summarises the areas examined for accessibility. Section one contains 16 questions related to the outside of the health centre. Section two contains 16 questions relating to the health facility's reception and waiting area. Section three addresses the rooms and halls in which rehabilitation services take place with 12 questions for each room included in the assessment. Section four consists of 16 questions and is related to general toilets for patients in the health facility. Section five consists of 30 questions and relates specifically to accessible toilets. Lastly, section six has 12 questions and relates to navigating

the inside of the health facility. The equipment required for conducting the audit includes a tape measure, a watch and the audit tool.

Table 5.2: Summary of Accessibility Audit Tool sections

Audit Tool Sections	**Number of Questions**
1. Outside the health facility	16
2. Health facility reception and waiting Area	16
3. Rooms and Halls for rehabilitation services	12 (per room)
4. General Toilets in rehabilitation department	16
5. Accessible Toilets in rehabilitation department	30
6. Navigating the health facility	12
Total score (minimum)	**102**

Source: Adapted from Pregel, Smith and Bridger, 2019.

The Sightsavers Accessibility Pack also includes guidelines for what constitutes the accessibility of an item (appendix 5.2). These guidelines include a scoring system which ranks each health facility's accessibility from 0-100 using four categories. The categories are organised in ascending order of increasing accessibility according to a scale of *minimal, low, moderate* and *good* accessibility as follows:

- "Minimal accessibility" represents a score of 0-25 and denotes that a person with a disability is unlikely to be able to visit the health facility independently because many of the infrastructure elements are neither easy to use nor have had reasonable modifications made to address these issues.

- "Low accessibility" represents a score of 26-50 and denotes that some infrastructure elements are not easy to use and that while some reasonable modifications have been made, this is not sufficient to ensure that a person with disability can visit the health facility independently.

- "Moderate accessibility" represents a score of 51-75 and denotes that most of the infrastructure elements can be accessed and that reasonable modifications have been made thus ensuring that a person with a disability can largely access the health facility independently.

- "Good accessibility" represents a score of 76-100 and denotes that all the infrastructure elements are easy to use and that there are reasonable modifications which ensure that people with disabilities are likely able to visit the health facility independently or without undue burden.

I conducted the accessibility audit independently with permission from the health facility manger. To generate the scores, the presence and absence of items were marked with a tick (Yes) and cross (No) respectively and entered onto the audit form. For each section of the audit, the total ticks (representing the presence of items or achieving the standards) were tallied. Each section's total was then combined to give a total percentage score for the health facility which represented minimal (0-25%), low (26-50%), moderate (51-75%) and good (76-100%) accessibility.

5.2.2 Objective 2: Implementation Gaps- Rehabilitation Service Capacity

Health facility Assessment: Tool Selection

Health Facility Assessment tools are used to gather data at the level of the health facility to identify strengths and limitations related to the provision of care. Several Health Facility Assessment tools are available and cover various components of the health system (Nickerson *et al.*, 2015). This

section will briefly review key available tools used globally and in South Africa, before describing the approach used in this thesis.

The Service Delivery Indicators (SDI) tool, an initiative of the World Bank, African Economic Research Consortium and the African Development Bank, collects data related to education and health (World Bank, 2017). Concerning the health component of the tool, the following are addressed: acute diarrhoea, pneumonia, diabetes, pulmonary TB, malaria, post-partum haemorrhage and neonatal asphyxia. Specifically, the data collected relates to infrastructure, available medicines and equipment, healthcare worker availability, and process of care related aspects such as clinical management and adherence to clinical guidelines. The Service Provision Assessment (SPA), which is used in Demographic and Health Surveys, collects health facility level data and addresses the following: child health, maternal and newborn health, family planning, HIV/AIDS, sexually transmitted infections, malaria, tuberculosis, basic surgery, diabetes, cardiovascular diseases and chronic respiratory diseases (DHS Program, 2014). For the services included, the tool gathers data on infrastructure, amenities, medicines and administrative systems, and the intended participants are healthcare workers and users of the service. The Service Availability and Readiness Assessment (SARA) is a health facility assessment which builds upon the SPA (WHO, 2015a). In this health facility tool, the services included are family planning, child health services, emergency obstetric care, HIV, tuberculosis and non-communicable diseases. For the evaluated services, data are collected on available amenities, medicines and technologies, and equipment.

By using a combination of methods, these health facility tools may be used to generate information from the perspectives of both providers and users of health services, which is valuable for designing services. Additionally, the combined tools focus on structural components as well as processes and systems, thus providing a more holistic assessment of the service when completed simultaneously. However, while these are important and widely used tools for identifying service gaps, they do not

include assessment of rehabilitation services. Therefore, they are not useful tools in their current form for the assessment of rehabilitation services.

In South Africa, two health facility assessment methodologies have been used. First, the national baseline health facility audit used the National Core Standards to inform data collection (Health Systems Trust, 2013). The areas which were evaluated were patient safety, healthcare worker attitudes, infection prevention and control, cleanliness, availability of medicines and supplies, and patient waiting times. Unlike the SDI, SPA and SARA, South Africa's national health facility audit gathered data on rehabilitation services in primary healthcare facilities (clinics and community health centres) and in hospitals. For rehabilitation services the only data collected were the proportion of health facilities with rehabilitation services which were available on site, had dedicate treatment space, and had equipment available. Second, the HealthRise project, which also included India, Brazil and the US, assessed the availability of non-communicable disease services in health facilities in two districts in South Africa (Wollum *et al.*, 2018). For diabetes and hypertension services, the data gathered was the availability of medicines, equipment and guidelines. Similar to the national health facility audit, the health facility tool does not include an assessment of rehabilitation services.

Within the context of rehabilitation, the WHO's Systematic Assessment of Rehabilitation Situation (STARS), facilitates an assessment of the available rehabilitation services in countries (WHO, 2019a). However, the assessment is intended to be conducted at a national level rather than the level of the individual health facility. Therefore, the evidence suggests that existing health facility assessment tools traditionally used to assess health service capacity and readiness in South Africa and other countries, inadequately address rehabilitation service capacity and coverage. Resultantly, an assessment tool specific to rehabilitation services at the level of the health facility was not available.

Addressing this gap, the forthcoming WHO Harmonised Health Facility Assessment (HHFA) tool includes a specific rehabilitation module for assessing the available rehabilitation services at the level of the health facility. For this research therefore, I adapted the rehabilitation module of the HHFA (WHO, 2018c). Since the WHO HHFA lacked important aspects related to consumables, some equipment and assistive devices at that time of the available draft, I incorporated the Global Co-operative Assistive Technology (GATE) Assistive Products List of 50 assistive devices into the adapted tool (WHO, 2016). Additionally, to assess the recommended minimum of available assistive devices, I employed the AT2030 list (ATscale, 2018). This list contains five assistive devices, which also appear in the GATE Assistive Product List. However, while the GATE list is very comprehensive and describes products which may also be offered outside of the health system in a country, the AT Scale is a more realistic representation of what might be available in health facilities in South Africa. Further, the rehabilitation consumables aspect of the South African National Catalogue of Commodities for Primary Health Care Facilities was incorporated into the adapted tool (Department of Health, 2018d).

The final adapted rehabilitation health facility tool which I employed for data collection consisted of a total of 124 items with sections assessing the service delivery, infrastructure, equipment (10 items) and consumables (64 items), assistive devices (50 items) and human resources for rehabilitation services (appendix 5.3). I entered the collected data into an Excel Spreadsheet for analysis using measures of frequency. The presence of each item from the tool that was functional was attributed a score of one and the absence of an item was attributed a score of zero. Once the scores for each section were tallied, a summary score was assigned to the health facility.

Rehabilitation Provider Characterisation

In order to characterise the rehabilitation workforce beyond reporting only the available quantity, I developed a paper-based questionnaire for the study to further explore the rehabilitation workforce that provided the rehabilitation services in each health facility (appendix 5.4). This

questionnaire was informed by aspects of the WHO Human Resources component of the Key Components of Health Systems, and contained sections relating to education, training, recruitment, distribution, perceived productivity and performance and performance, and retention (WHO, 2010a). The questionnaire consisted of 49 questions which when completed yielded a combination of categorical and binary data, and free-written responses which I then converted into nominal categorical data.

I chose a paper-based questionnaire rather than an online one in order to increase response rates. The questionnaires were self-administered by the rehabilitation providers themselves. While the rehabilitation providers completed their questionnaires, I continued with the other aspects of data collection for the study. I entered the data into an Excel spreadsheet for descriptive statistics, namely measures of frequency (Microsoft, 2020).

5.3 Results

5.3.1 Accessibility

For accessibility of the rehabilitation service by people with disabilities, five of the health facilities scored between 26-50%, meaning that accessibility was low and there was a strong need for adjustments (table 5). The remaining four health facilities scored 51-75%, meaning that accessibility was moderate and there was a moderate need for adjustments (table 5).

Table 5: Accessibility Audit Scores

HEALTH FACILITY	**HF 1**	**HF 2**	**HF 3**	**HF 4**	**HF 5**	**HF 6**	**HF 7**	**HF 8**	**HF 9**
COMBINED TOTAL SCORE	93	78	84	33	54	46	47	34	63
Total Score possible per facility= 16+16+(x*12)+16+30+12	126	114	126	102	114	102	102	102	114
COMBINED TOTAL SCORE (%)	**74 %**	**68 %**	**67 %**	**32 %**	**47 %**	**45 %**	**46 %**	**33 %**	**55 %**

KEY	Colour	Interpretation
76-100%		Good accessibility, low need for adjustments
51-75%		Moderate accessibility, moderate need for adjustments
26-50%		Low accessibility, strong need for adjustments
0-25%		Minimal accessibility, high need for adjustments

A disaggregation of the accessibility scores by area revealed that in terms of the area outside of the health facility: eight of the health facilities had moderate accessibility (51-75%) and one had good accessibility (76-100%) (figure 5). All (n=9) health facilities' *reception and waiting areas* (figure 6) had moderate accessibility. Concerning general toilets, in two of the nine health facilities there were no *general toilets* in the rehabilitation department for patients to use. Of the remaining health facilities (n=7) that did have *general toilets*, most of them (n=6) were of moderate (51-75%) accessibility and one had good (76-100%) accessibility (figure 7). Only one third (n=3) of the health facilities had *toilets marked as accessible* for people with disabilities (figure 8), all of which had moderate (51-75%) accessibility. The number of rooms available in each rehabilitation department varied across health facilities and as such, accessibility is presented as a proportion. The accessibility of the *rooms and halls* varied across health facilities (figure 9). Two health facilities obtained good (76-100%) accessibility, six had moderate (51-75%) accessibility, and one had low (25-50%) accessibility. With regards to *navigating to and throughout the rehabilitation department*, three had moderate (51-75%) accessibility, while six had low (25-50%) accessibility (figure 10).

Figure 5

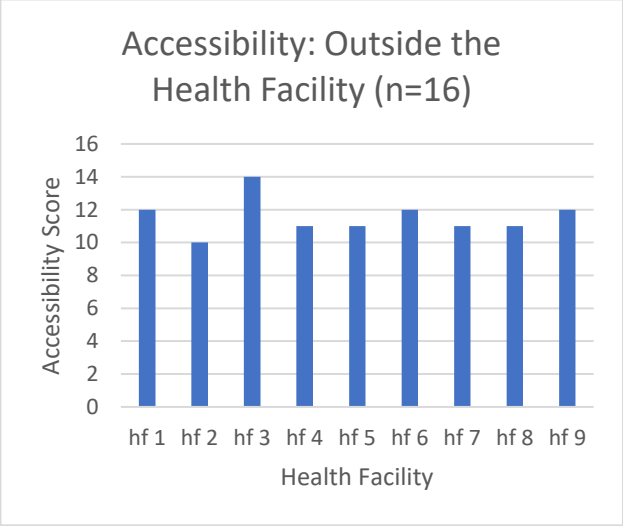


Figure 6

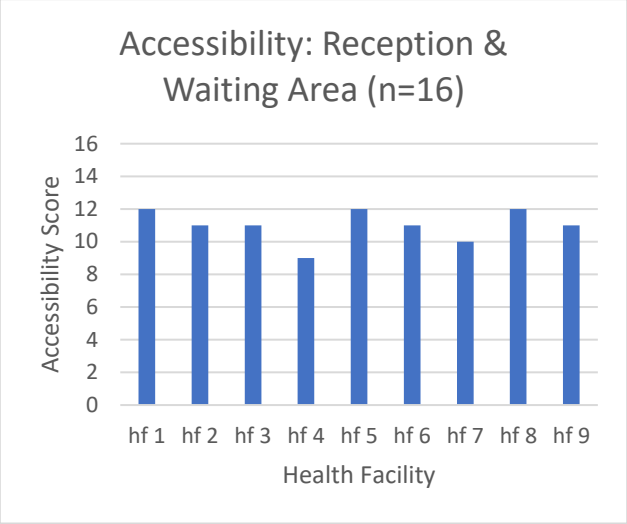


Figure 7

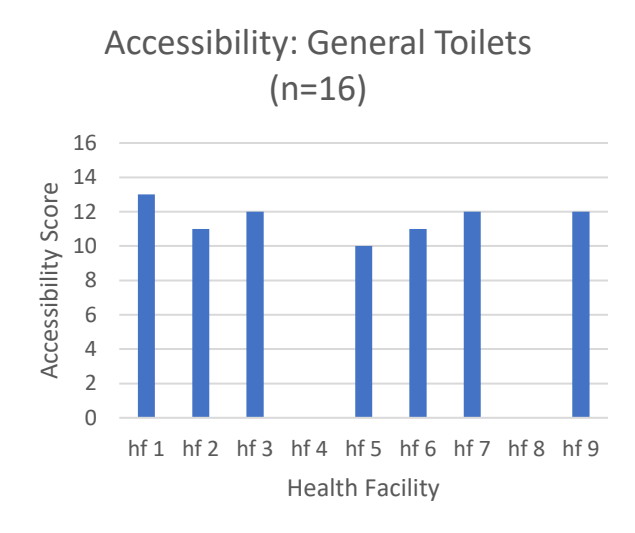


Figure 8

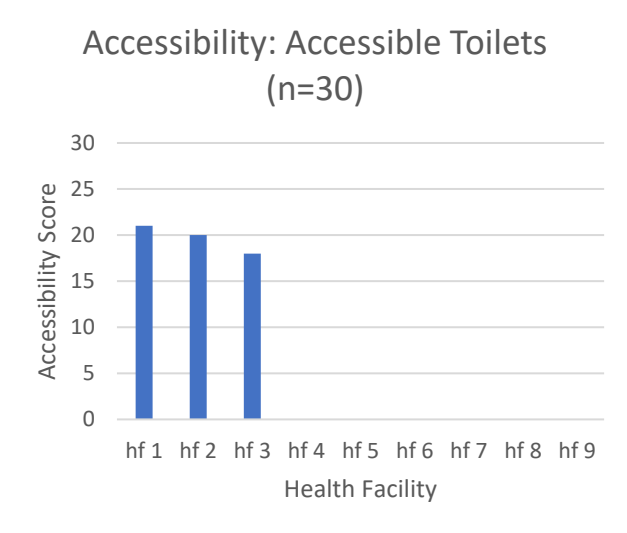


Figure 9

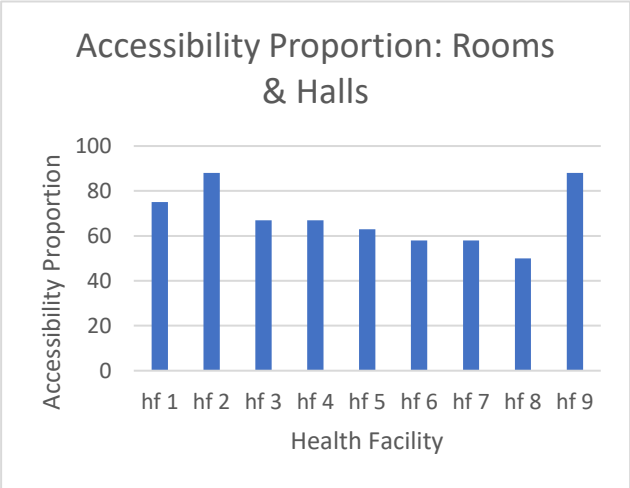
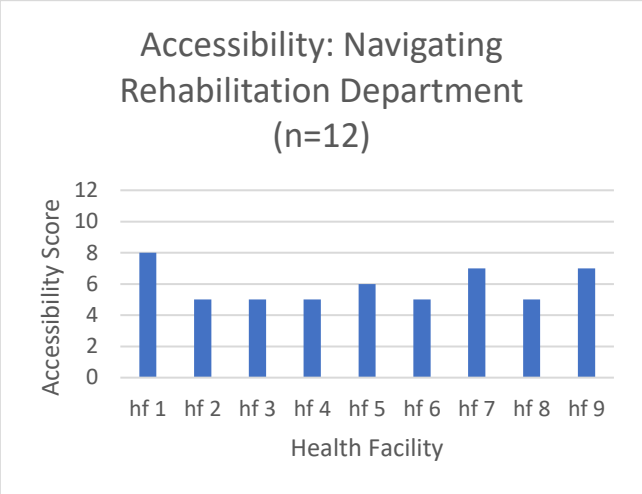


Figure 10



Overall, all health facilities may have benefited from adjustments to improve accessibility of the rehabilitation departments for people with disabilities. In particular, there were two areas which had the lowest accessibility. Firstly, most (n=6) of the health facilities did not have accessible toilets in or near their rehabilitation departments (figure 8). Secondly, navigating to and around the rehabilitation department presented areas of low accessibility in most (n=6) of the health facilities. Specifically, the aspects which were lacking across all health facilities were *clear signage with colour contrast accompanied by non-glare large print and pictures, visual floor wayfinding signage and tactile paving with colour contrast, and fire alarms with both visual and audible* signals (appendix 5.5). In other words, health facilities were relatively more accessible for individuals with physical impairments and less accessible for individuals with visual and hearing impairments. However, the areas which had the highest accessibility across the health facilities were the key entry areas to the health facilities and these were related to outside the health facility and in the reception and waiting areas.

5.3.2 Rehabilitation Service Capacity

The rehabilitation service capacity element of this research investigated the following areas:

- basic amenities available in the health facility

- rehabilitation service delivery and coverage
- available assistive devices, equipment, and consumables for the provision of rehabilitation services

Basic amenities

In terms of power supply, all nine health facilities in OR Tambo District had power that was functional. All health facilities had a functional and reliable water source and functioning sanitation facilities in the form of flush toilets. In four of the nine of the health facilities, treatment spaces were demarcated but only by cubicles with curtains which offered limited privacy, while the rest had a separate room with doors. In one third (n=3) of the health facilities access to functioning internet was provided by the health facility while in the remaining health facilities, internet was covered through personal expenses.

Service delivery and coverage

All nine health facilities in OR Tambo offered rehabilitation services to in-patients and outpatients (table 5.3). However, the types of rehabilitation services available in each health facility varied depending on the rehabilitation providers employed. All health facilities offered physiotherapy and six health facilities offered occupational therapy. Only two health facilities offered speech and language therapy, and two health facilities offered audiology. No health facility had rehabilitation treatment spaces which remained unoccupied. All health facilities needed to refer to the regional orthopaedic hospital for orthotics and prosthetics.

Table 5.3: Types of rehabilitation services available in health facilities

Type of Rehabilitation Service	**Number of Health Facilities (n=9)**
Physiotherapy	9
Occupational therapy	6
Speech and Language therapy	2
Audiology	2
Orthotics and Prosthetics	0

In addition to providing rehabilitation services at the health facilities, over half, (n=5) of the facilities provided rehabilitation services to clinics in their catchment area (table 5.4). Three health facilities provided rehabilitation services via home visits to patients in their catchment area.

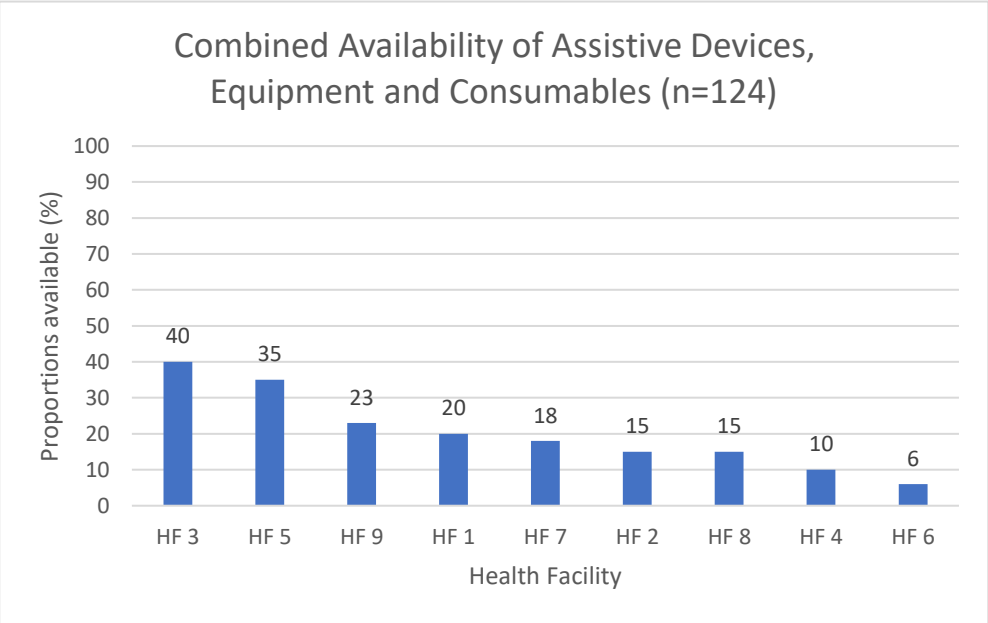
Table 5.4: Rehabilitation services offered on an outreach basis

Health Facility	Outreach to clinics	Home visits
HF 1	Yes	-
HF 2	-	-
HF 3	Yes	Yes
HF 4	-	-
HF 5	-	Yes
HF 6	-	-
HF 7	Yes	-
HF 8	Yes	Yes
HF 9	Yes	-

Assistive devices, equipment, and consumables

The combined availability of assistive devices, equipment, and consumables in health facilities ranged from as low as 6% to 40% (figure 5.1). The two health facilities with the highest combined availability of assistive devices, equipment and consumables were HFs 3 (40%) and 5 (35%). HFs 4 and 6 had the lowest combined availability with 10% and 6% availability, respectively.

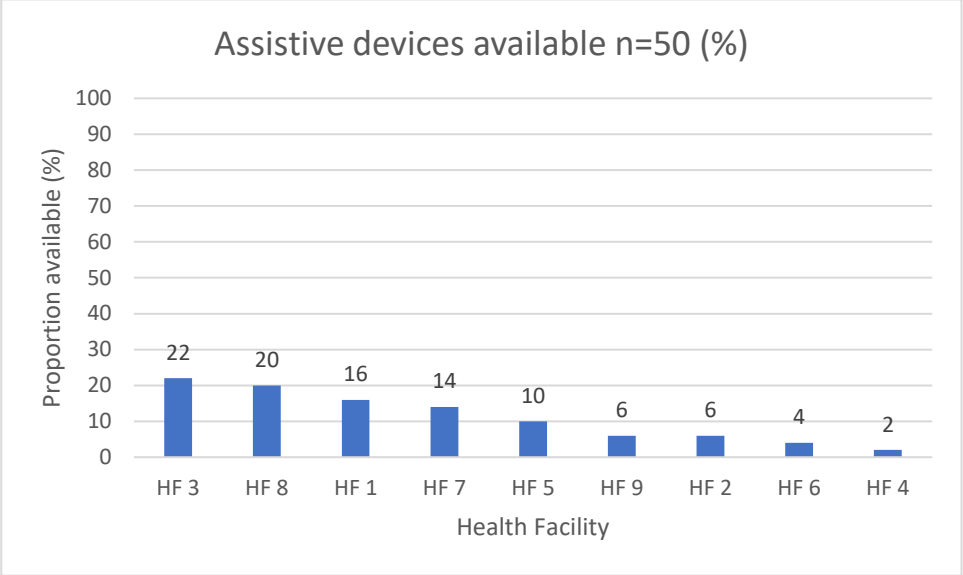
Figure 5.1: Combined available proportions of assistive devices, equipment, and consumables



Assistive devices

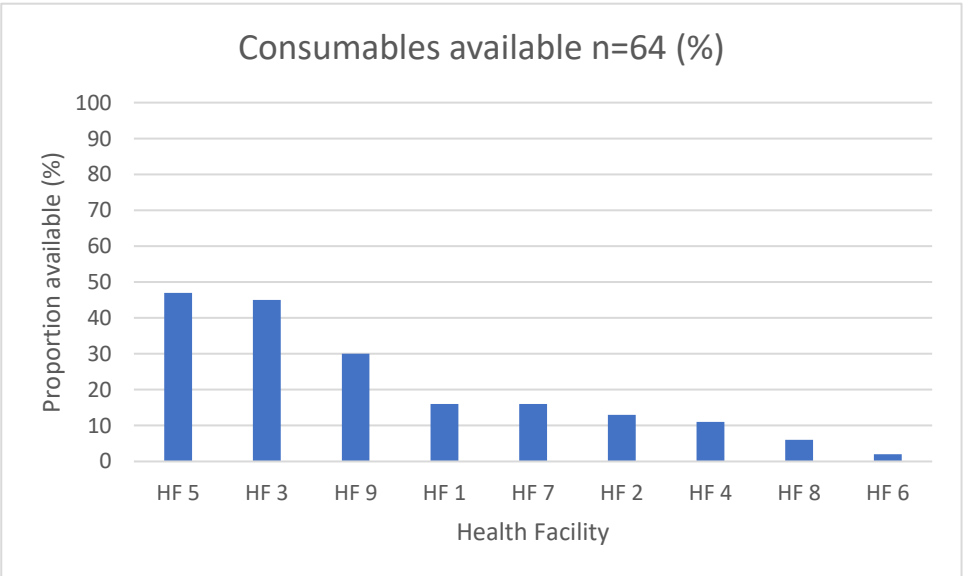
In figure 5.2, the breakdown of availability by assistive devices is presented for all health facilities. Overall, the availability of assistive devices at the level of the health facility was low across health facilities. The proportions of available assistive devices offered though ranged from 2% to 22%. The health facilities with the highest availability were HFs 3 and 8, with availability being 22% and 20% respectively. Health facilities 6 and 4 had the lowest availability of assistive devices with proportions available being 4% and 2%, respectively.

Figure 5.2: Breakdown of availability by assistive devices



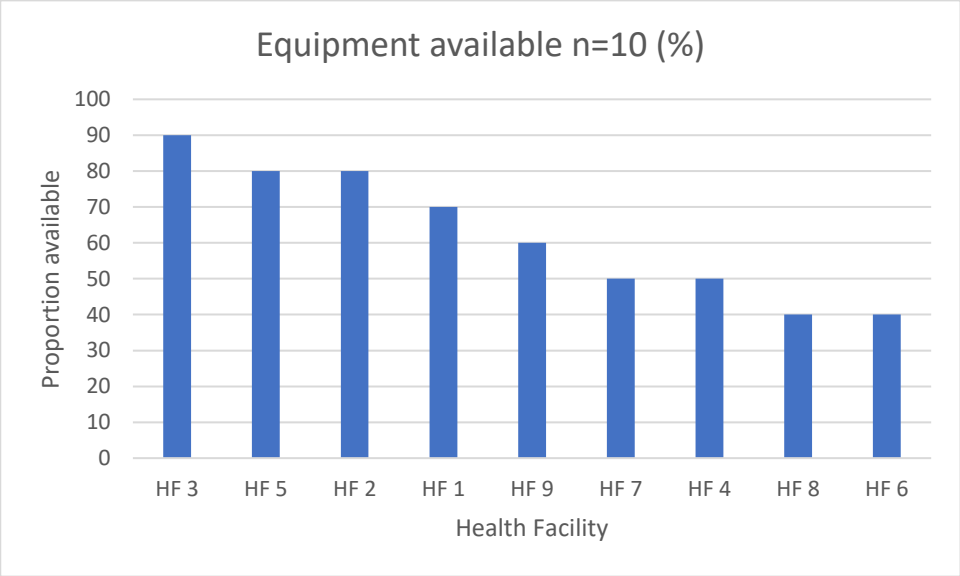
In figure 5.3, the breakdown of availability by consumables is presented for all health facilities. Similar to the assistive device availability, the availability of consumables across health facilities was generally low although there was wide variation between health facilities. The highest availability of consumables was found in HFs 5 (47%) and 3 (45%), while the lowest availability was in HFs 8 (6%) and 6 (2%).

Figure 5.3: Breakdown of availability by consumables



Contrastingly, there was a greater availability of equipment across health facilities. The proportions of available equipment for rehabilitation service provision in the health facilities ranged from 40% to 90% (figure 5.4). The highest availability of equipment was found in HFs 3 (90%) and 5 (80%). The lowest availability of equipment was in HFs 8 and 6, both of which had availability of 40%.

Figure 5.4: Breakdown of availability by equipment

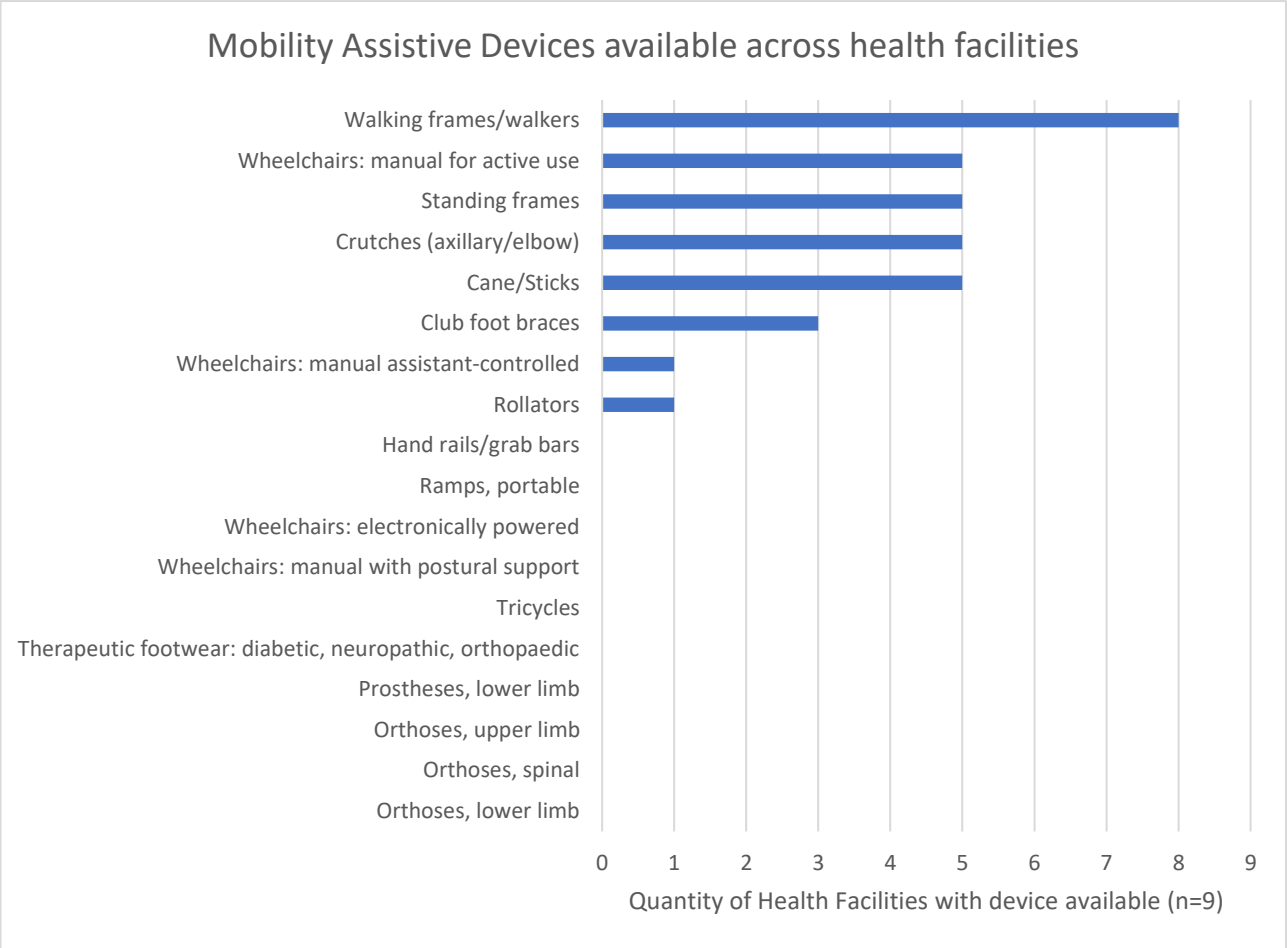


The results above provide insights on which health facilities had the highest availability of assistive devices, equipment and consumables. However, it is also worthwhile to report on which of these assistive devices were most commonly available across health facilities. The most commonly available type of assistive devices were those related to mobility (figure 5.5), followed by self-care related assistive devices (figure 5.6), and hearing-related assistive devices (figure 5.7). Assistive devices related to vision and communication were very limited with no health facility providing visual assistive devices, and one health facility (HF 3) with communication assistive devices such as communication boards in stock.

Among the mobility-related assistive devices (figure 5.5), the five most common adult assistive devices across health facilities were walking frames (n=8), manual wheelchairs (n=5), standing

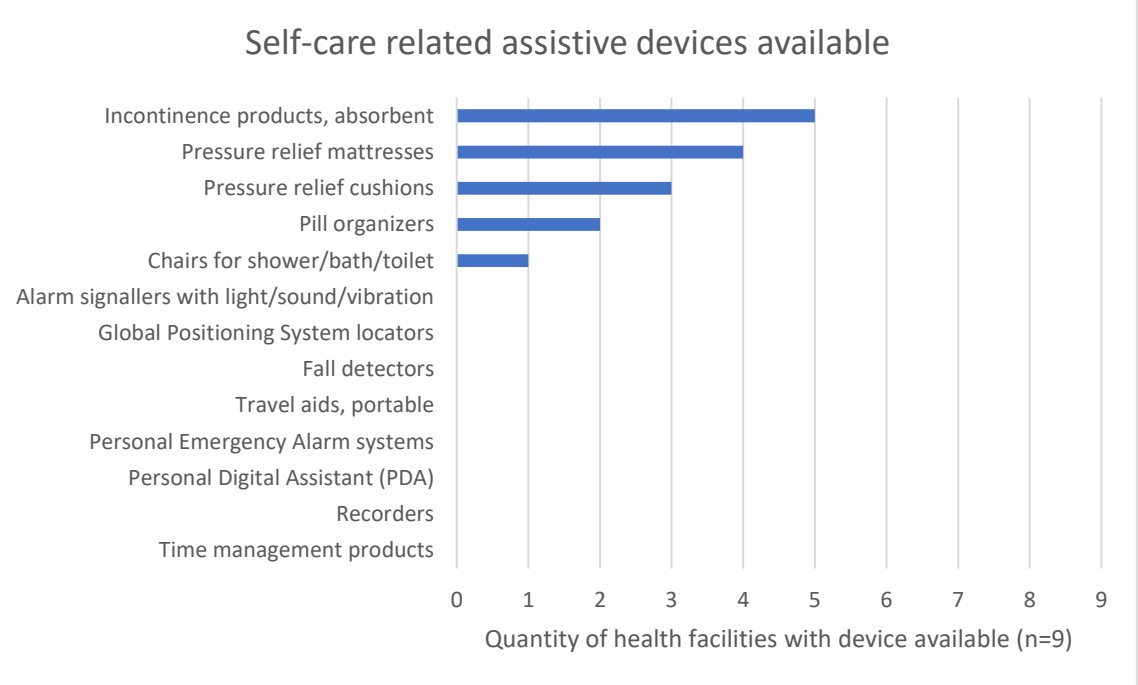
frames (n=5), elbow crutches (n=5) and canes or walking sticks (n=5). Prostheses and orthoses were not available at any health facility. However, there was a regional Orthotics and Prosthetics Centre to which patients from all health facilities would be referred to.

Figure 5.5: Mobility-related assistive devices available across health facilities



Among the self-care related assistive devices (figure 5.6), the five most commonly available across health facilities were incontinence products (n=5), pressure relief mattresses (n=4), pressure relief cushions (n=3), pill organisers (n=2) and chairs for the shower, bath or toilet (n=1). Further, these incontinence products and pressure relief mattresses were available for in-patient use in the wards rather than for issuing to patients to take home. None of the remaining assistive products in the self-care category were available across health facilities.

Figure 5.6: Self-care related assistive devices available across health facilities



Amongst the hearing-related assistive devices, hearing aids were available only in the two health facilities which employed audiologists. Thus, the remaining health facilities relied on referring patients who required hearing aids to a hospital with a higher level of care such as a regional hospital. No other hearing-related assistive devices were available. Amongst communication-related assistive devices, communication boards were available in one of the two health facilities which employed speech and language therapists. Lastly, there were no vision-related assistive devices available in any of the health facilities. Patients requiring vision services were either attended to by an NGO which provides eye-care or referred to the regional hospital.

An analysis of the five priority assistive devices as proposed by ATscale available in each health facility (table 5.5) shows that wheelchairs were the most commonly available priority assistive device (n=5) followed by hearing aids (n=2). The remaining health facilities did not have wheelchairs in stock for new patients and would therefore need to place an order for each new patient. Regarding hearing aids, these were available only in those health facilities which employed

audiologists. Spectacles, prosthetics and smart products were not available in any of the health facilities.

Table 5.5: Priority Assistive Devices according to ATscale

Health Facility	**Wheelchairs**	**Hearing Aids**	**Spectacles**	**Prosthetics**	**Smart Products**	**Priority assistive devices in health facilities**
HF 1	1	0	0	0	0	1
HF 2	0	0	0	0	0	0
HF 3	1	1	0	0	0	2
HF 4	0	0	0	0	0	0
HF 5	1	0	0	0	0	1
HF 6	0	0	0	0	0	0
HF 7	1	0	0	0	0	1
HF 8	1	0	0	0	0	1
HF 9	0	1	0	0	0	1
Quantity of health facilities with Priority Assistive Device	5	2	0	0	0	

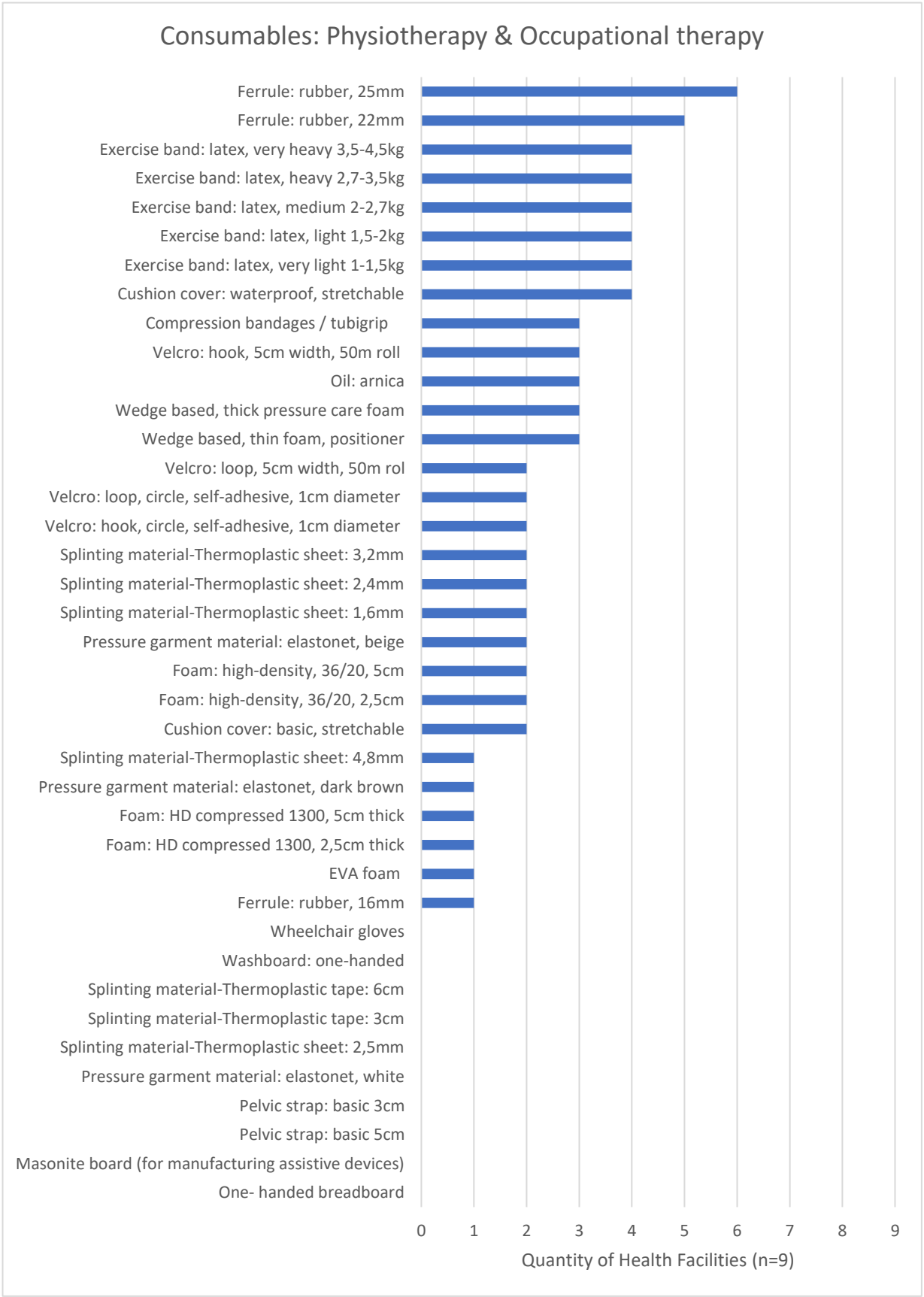
Overall, across health facilities and by disability, the most commonly available assistive devices were those related to mobility, followed by those related to self-care, and hearing related assistive devices. Assistive devices related to communication and vision were largely unavailable. By health facilities, HF 3 had the highest availability of equipment and assistive devices, while HF 5 had the highest availability of consumables. When looking only at the five priority assistive devices, the

most commonly available assistive devices were wheelchairs and hearing aids, while spectacles, prosthetics and smart products were not available in the health facilities.

Consumables

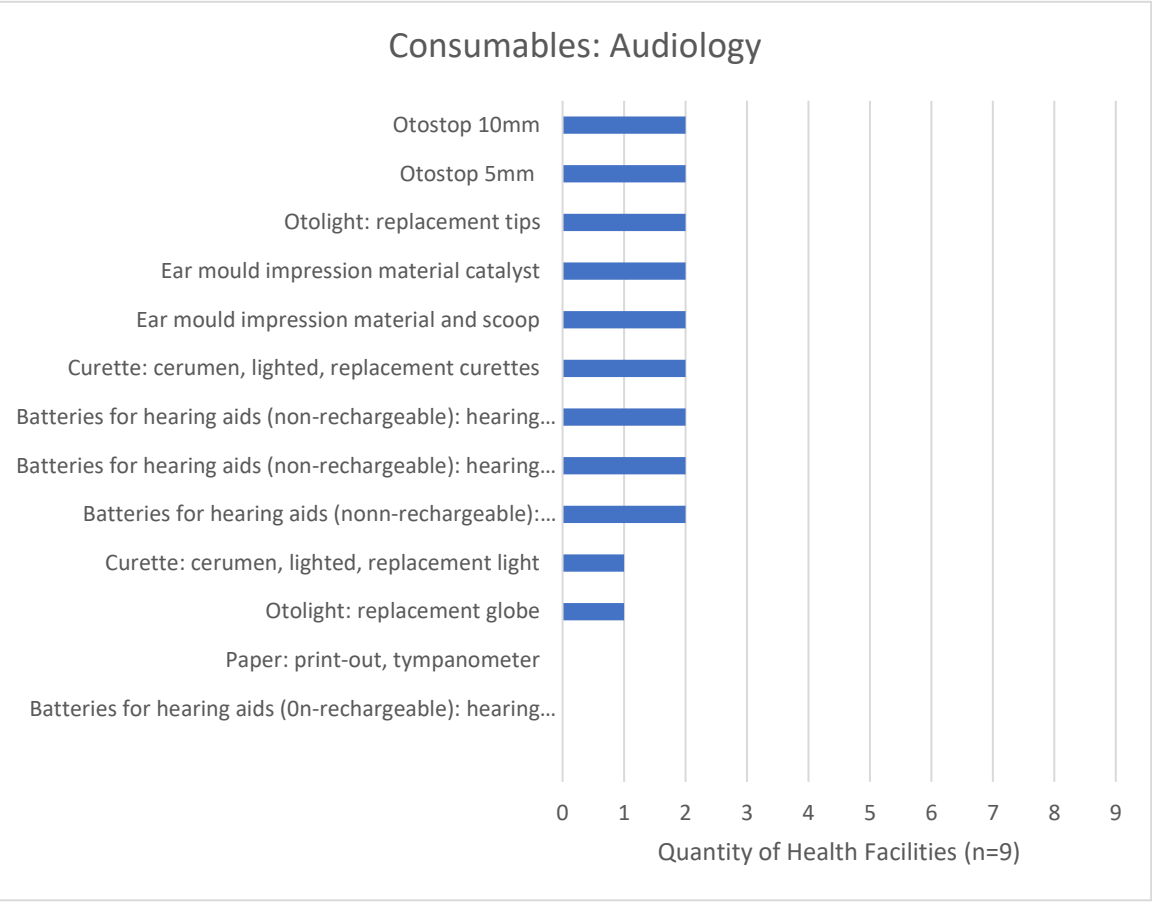
Since the consumables used in the provision of physiotherapy and occupational therapy overlap, their availability is reported together (figure 5.8). The most commonly available consumables were ferrules (25mm and 22mm) for crutches, walking frames and walking sticks, with six and five health facilities having these available. This was followed by exercise latex bands of various sizes, which are used in progressive muscle strengthening activities (n=4), as well as waterproof wheelchair seat covers (n=4). There were several items which were not available across health facilities, namely wheelchair gloves to protect the hands of the user, pelvic straps for securing the wheelchair user, splinting material, single handed items for retraining functioning in unilateral upper limb impairment, and a masonite board for manufacturing assistive devices.

Figure 5.8: Number of health facilities with consumables available for provision of physiotherapy and occupational therapy



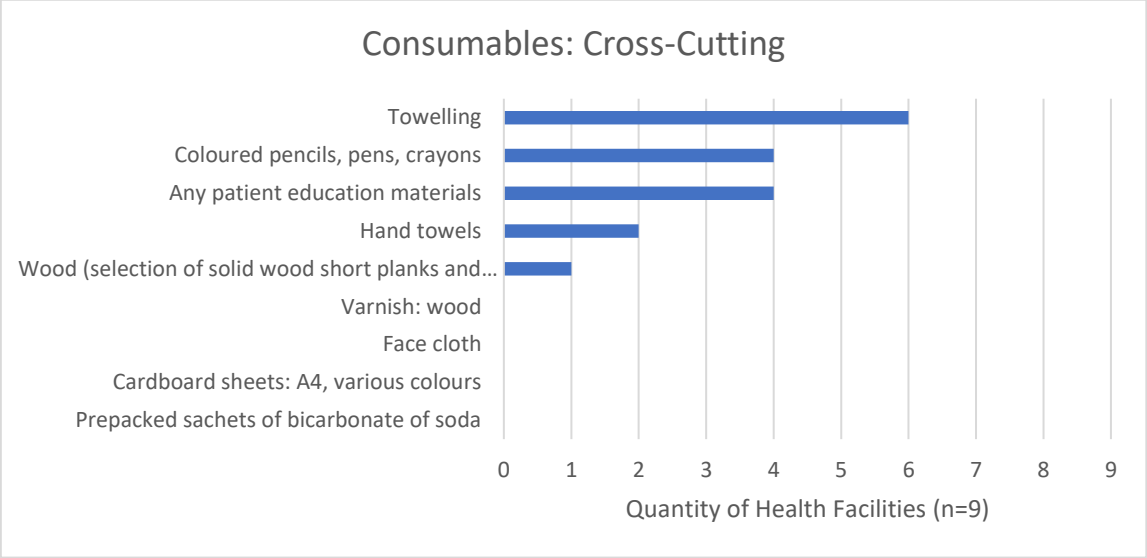
For the two health facilities offering audiology, the available consumables are presented in figure 5.9. Both health facilities were largely well stocked regarding consumables. As both health facilities did not offer tympanometry, a test which assesses middle-ear functioning, they did not have the paper upon which results are printed.

Figure 5.9: Number of health facilities with consumables available for audiology



In addition to the consumables used in the provision of physiotherapy, occupational therapy and audiology, there were also some consumables which are used across the professions (figure 5.10). The most commonly available consumables were towels used in draping patients (n=6), coloured pencils (n=4), and patient education materials (n=4). Hand towels (n=2) and wood pieces (n=1) were present but less commonly available.

Figure 5.10: Number of health facilities with consumables cutting across rehabilitation professions

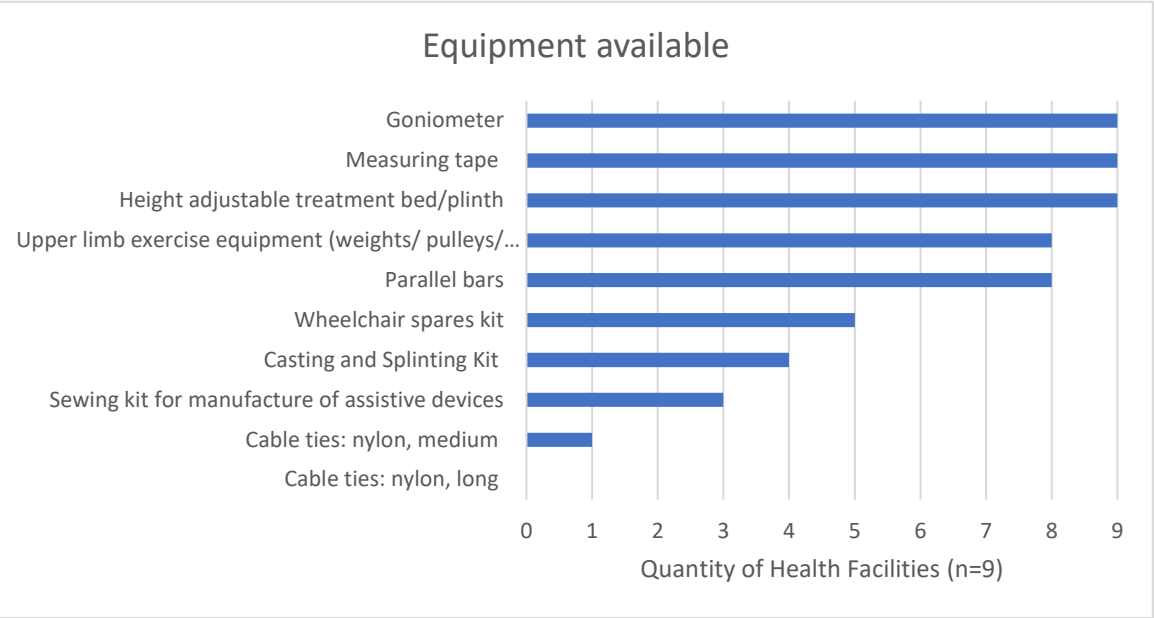


For the two health facilities which offered speech and language therapy, both had feeding cups and one of them also had feeding spoons.

Equipment

Compared to assistive devices and consumables, the availability of equipment was generally higher in health facilities (figure 5.11). All nine health facilities had goniometers for measuring joint motion, measuring tapes and treatment plinths. Parallel bars were available in eight of the health facilities, however in one health facility, they were stored outside because the consultation room was too small to accommodate them. Wheelchair spares kits were also available in eight health facilities. Of interest, four health facilities had the equipment for creating splints but splinting material was not available in health facilities (figure 5.8) suggesting that this component of the service could not be realistically offered.

Figure 5.11: Number of health facilities with equipment available



5.3.3 Characteristics of Rehabilitation Providers

In OR Tambo district, there were 30 rehabilitation providers currently employed in the nine district hospitals (health facilities) (table 5.6). By profession 14 (46%) of these were physiotherapists, 33.3% (n=10) occupational therapists, 6.7% (n=2) speech and language therapists, 6.7% (n=2) audiologists and 6.7% (n=2) physiotherapy assistants. Orthotists and Prosthetists were employed at regional hospitals and other higher levels of care. There were no rehabilitation physicians or rehabilitation nurses employed at the nine health facilities. The distribution of rehabilitation providers across the health facilities was unequal. The highest number of rehabilitation providers was in HF 3 (n=9), followed by HF 1 (n=5) and HF 2 (n=4). The lowest number of rehabilitation providers was found in HFs 4 (n=1) and 6 (n=1). Physiotherapists were available in all nine health facilities while occupational therapists were available in six. The availability of speech and language therapists and audiologists was low, with only two health facilities employing each of these rehabilitation providers. Health facility 3 had physiotherapists, occupational therapists, a speech and language therapist and audiologist, and as such was the only facility which had the full complement of the core rehabilitation team as stipulated in South Africa's rehabilitation policy documents.

Table 5.6: Numbers of available rehabilitation providers across health facilities.

Profession	HF 1	HF 2	HF 3	HF 4	HF 5	HF 6	HF 7	HF 8	HF 9	TOTAL
Physiotherapists	2	2	4	1	1	1	1	1	1	14
Occupational Therapists	2	2	3	0	1	0	1	0	1	10
Speech & Language Therapists	0	0	1	0	0	0	1	0	0	2
Audiologists	0	0	1	0	0	0	0	0	1	2
Orthotist and Prosthetists	0	0	0	0	0	0	0	0	0	0
Rehabilitation Physicians	0	0	0	0	0	0	0	0	0	0
Rehabilitation Nurses	0	0	0	0	0	0	0	0	0	0
Physiotherapy Assistant	1	0	0	0	0	0	0	1	0	2
TOTAL	5	4	9	1	2	1	3	2	3	30

The majority (57%, n=17) of rehabilitation providers employed in the district were community service level professionals and were distributed relatively evenly across all health facilities (table 5.7). Community service level providers are those qualified rehabilitation providers who are in their first year of work after university, and are yet to obtain independent practitioner status from the Health Professionals Council of South Africa (HPCSA) (Department of Health, 2006; Reid *et al.*, 2018). Only one rehabilitation provider was officially employed as a manager of the rehabilitation service in the district but all health facilities had rehabilitation providers who functioned as rehabilitation managers. Amongst the ten rehabilitation providers in permanent roles (those beyond the first year of work), most of them (n=6) were employed in HF 3 while HFs 1 and 2 each employed two. Since HFs 1, 2 and 3 employed all the permanent rehabilitation providers in the sample, all other health facilities had rehabilitation departments which were operated by community service professionals only.

Table 5.7: Professional Levels of rehabilitation providers across health facilities

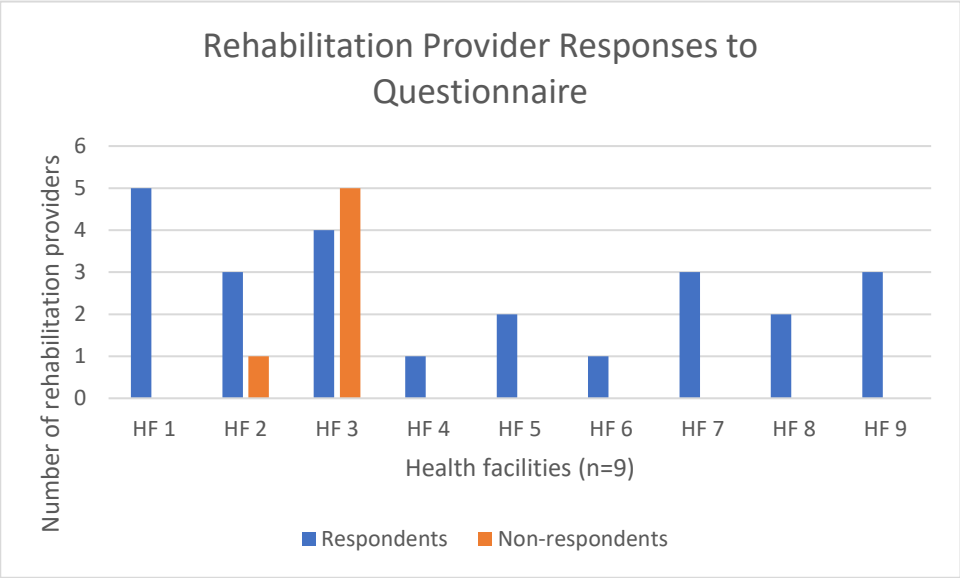
Level	HF 1	HF 2	HF 3	HF 4	HF 5	HF 6	HF 7	HF 8	HF 9	TOTAL
Assistant	1	0	0	0	0	0	0	1	0	2

Community Service	2	2	2	1	2	1	3	1	3	17
Permanent	2	2	6	0	0	0	0	0	0	10
Chief	0	0	1	0	0	0	0	0	0	1
TOTAL	5	4	9	1	2	1	3	2	3	30

Demographics

All 30 rehabilitation providers were invited to participate in the study of which 24 agreed to participate, thus yielding an overall response rate of 80% (figure 5.12). The six rehabilitation providers who did not participate were from HF 3 (n=5), which has a total number of nine rehabilitation providers, and HF 2, which has a total of four rehabilitation providers (n=1). Among those who opted to not participate were four physiotherapists, one speech and language therapist, and one audiologist. In the remaining health facilities 100% of the rehabilitation providers completed the questionnaire. Figure 5.12 shows the distribution of respondents by health facility who participated in completing the questionnaire.

Figure 5.12: Distribution of questionnaire respondents across the health facilities



A selection of characteristics of the rehabilitation providers who responded to the questionnaire is presented in table 5.8. Females (n=20) comprised the majority of respondents and this was the case overall in the district. The types of rehabilitation providers who participated were occupational therapists (n=10), physiotherapists (n=10), physiotherapy assistants (n=2), an audiologist (n=1) and a speech and language therapist (n=1). By professional level, there 16 were community service level providers (constituting 94% of the 17 community service officers employed in the district) while eight were in permanent posts (constituting 62% of the 13 permanent post holders in the district). Most participants spoke more than one language. The most commonly spoken language by participants was English (96%), followed by Xhosa (58%) and Afrikaans (42%).

Table 5.8: Characteristics of the rehabilitation providers

Respondent Characteristics	Number of Rehabilitation Providers (n=24)
Sex	
Female	20
Male	4
Provider Type	
Occupational therapist	10
Physiotherapist	10
Physiotherapy assistant	2
Audiologist	1
Speech and language therapist	1
Professional Level	
Community service officer (CSO)	16
Permanent (post CSO)	8

The questionnaire results will be presented according to each section, namely education, recruitment, training and distribution, performance and productivity, and retention.

Education

More than half of the rehabilitation providers obtained their qualifications from a university in the province of the Western Cape, in which there are three universities which train rehabilitation providers. These universities are the University of the Western Cape (n=6), University of Cape Town (n=4) and Stellenbosch University (n=3). The University of Kwa Zulu Natal was the awarding university of six of the rehabilitation professionals. There were two rehabilitation providers who obtained the qualifications from two universities in the Gauteng province, and one rehabilitation provider who had obtained their qualification from the University of Free State. No rehabilitation professionals reported receiving their qualifications in the Eastern Cape Province in which OR Tambo district is located because there are no training universities for rehabilitation providers. The physiotherapy assistants' qualifications were certificates and not bachelor's degrees like the rest of the rehabilitation providers. Table 5.10 presents the distribution of universities from which rehabilitation providers obtained their qualifications.

Table 5.10: Institutions from which rehabilitation providers obtained their qualifications

Institution of Qualification	Number of Rehabilitation Providers
Audiologist	**1**
University of Pretoria	1
Occupational therapist	**10**
University of Stellenbosch	1
University of Cape Town	1
University of Free State	1
University of Kwa Zulu Natal	1
University of Stellenbosch	2
University of Western Cape	3
University of Witswatersrand	1
Physiotherapist	**10**
University of Cape Town	2
University of Kwa Zulu Natal	5
University of Western Cape	3
Physiotherapy assistant	**2**
Mthatha General Hospital	1
n/a	1
Speech and Language therapist	**1**
University of Cape Town	1
Total Respondents	**24**

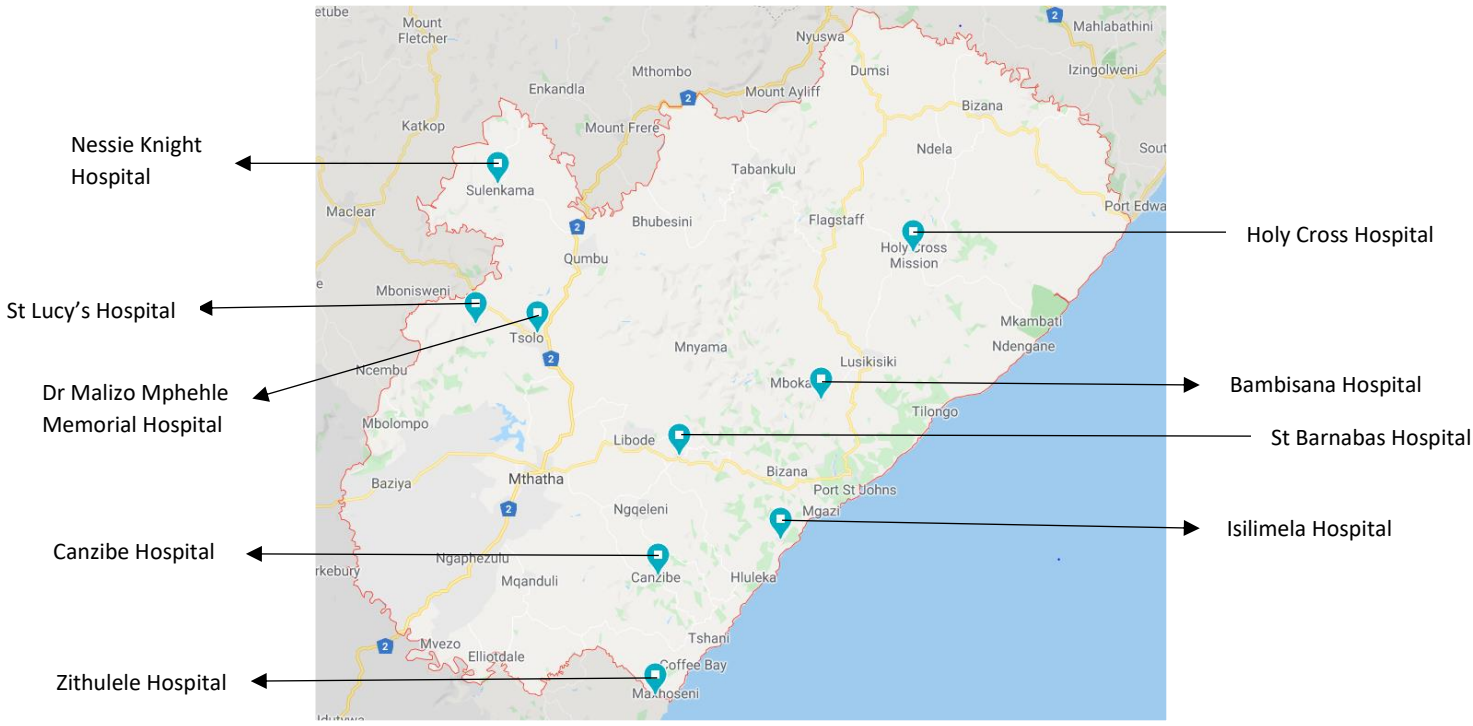
Recruitment

All of the community service rehabilitation providers underwent the defined recruitment process as stipulated by the Department of Health (DOH). This process includes providing options for health facilities according to the list provided by the DOH. The DOH then allocates the applicants to health facilities. In the case of the permanent rehabilitation providers (n=8), they submitted applications for particular posts and health facilities to the DOH. One of which was a bursary holder and thus was retained after completing community service in the same health facility.

Distribution

The nine health facilities (district hospitals) are distributed throughout OR Tambo district's five municipalities (figure 5.13). Most of the rehabilitation providers are distributed in the southern part of the district. The southern part of OR Tambo district has five health facilities (St Barnabas, Zithulele, Canzibe, Isilimela and Bambisana) which totals 20 of the 30 employed rehabilitation providers across these health facilities, and a combined health facility bed capacity of 685 beds. The north-western part of the district has three health facilities (St Lucy's, Nessie Knight and Dr Malizo Mphehle) with seven rehabilitation providers across these health facilities, and a combined health facility bed capacity of 345. The north-eastern part of the district has one health facility (Holy Cross) with three rehabilitation providers and a bed capacity of 224 beds.

Figure 5.13: Map of the Nine District Hospitals in OR Tambo District

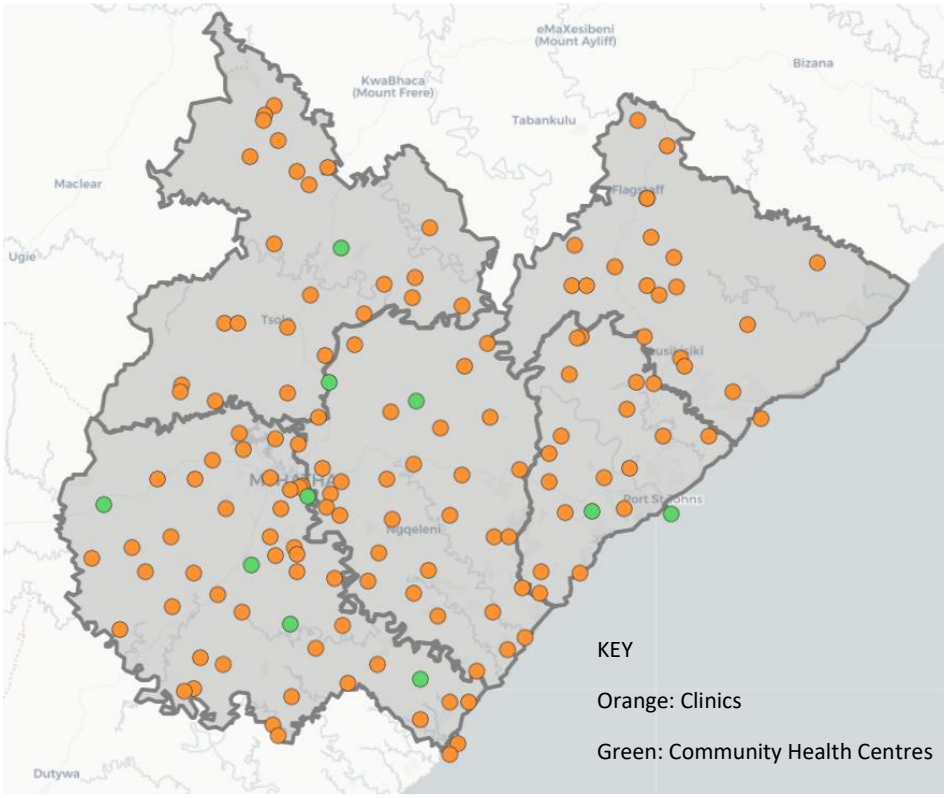


The reported daily commute is less than or equal to 10 minutes for 20 of the rehabilitation providers, three of which use a car while the remaining walk to work. For one, the commute is 10-

20 minutes by car and three rehabilitation providers have a commute which is greater than 30 minutes by car. The three rehabilitation providers with a commute of greater than 30 minutes all chose to find their own accommodation over that provided by the hospital because they felt it was inadequate.

Across the responses, all health facilities were said to have vehicles and a transport booking system for providing outreach services. However, some respondents (n=6) from HFs 2, 3, 7 and 8 reported also making use of their own private transport (n=5) or public transport (n=1) when needing to provide outreach services in instances where the health facility vehicles were unavailable. The map below (figure 5.14) represents the distribution of all clinics (orange) and community health centres (CHCs) (green) in surrounding the health facilities in the district of OR Tambo. It is to these clinics and CHCs that outreach services would be provided to.

Figure 5.14: Distribution of clinics and community health centres in OR Tambo District



Training

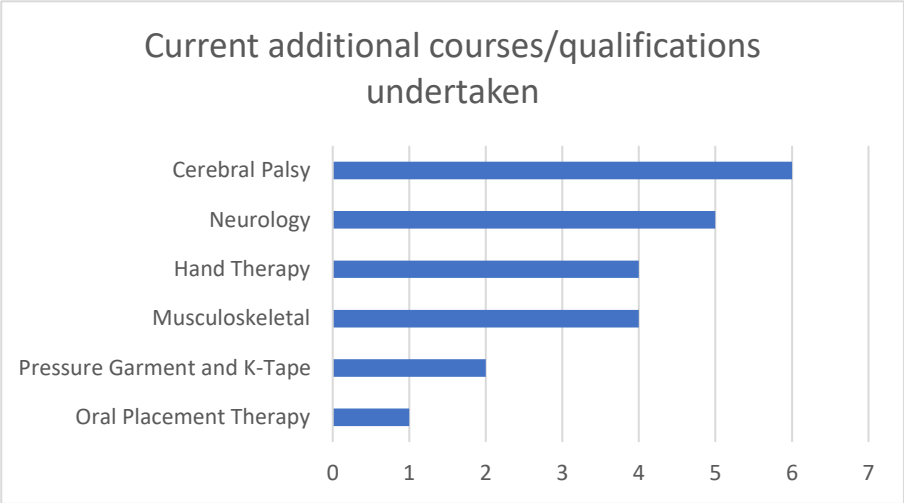
Regarding training and continuing professional development, half of the rehabilitation providers (n=12) reported having undertaken additional courses or qualifications related to their current job. Five of these rehabilitation providers were occupational therapists, four were physiotherapists, two were physiotherapy assistants and one was a speech and language therapist. Table 5.11 presents the number and proportions of rehabilitation providers who had undertaken additional courses and qualifications in each health facility.

Table 5.11: Respondents who undertook additional training and qualifications related to their current job

Health Facility	Number and Proportion of Rehabilitation Providers (n=24)
HF 1	2 (40%)
HF 2	2 (67%)
HF 3	4 (100%)
HF 4	0
HF 5	0
HF 6	0
HF 7	3 (100%)
HF 8	1 (50%)
HF 9	0

The additional courses or qualifications that were undertaken by the rehabilitation providers spanned a variety of specialty areas such as cerebral palsy, neurology, musculoskeletal, hand therapy, pressure garment and kinesio-tape, and oral placement therapy (figure 5.15). The most commonly undertaken course was related to cerebral palsy, most likely representing a large proportion of the patients seen. Of the six rehabilitation providers who undertook a cerebral palsy relevant course, five obtained their training through the “Malamulele Onwards Cerebral Palsy Course for Therapists”.

Figure 5.15: Specialty areas of additional training



With regards to how easily providers could attend additional training, most (n=13) rehabilitation providers reported encountering difficulty. This difficulty was largely related to the rural location which meant longer distances to the nearest airport or needing to account for additional travel days when booking time off. However, responses from 12 rehabilitation providers suggest that at an institutional level, there were no difficulties with being granted leave to attend additional training.

Regarding future plans for undertaking additional qualifications (table 5.12), one quarter of rehabilitation providers stated that they were not considering undertaking additional qualifications; however, few indicated the reasons for this. Amongst occupational therapists, hand therapy (n=2), neurology (n=2), functional capacity evaluations (n=1) and public health (n=1) were the areas in which interest was expressed. Amongst physiotherapists, a master's degree in physiotherapy (n=4), a master's degree in sports physiotherapy (n=3), neurology (n=1) and commerce (n=1) were the areas of interest. Both physiotherapy assistants stated that they wanted to obtain the Physiotherapy Training Technician qualification. The speech and language therapist wanted to pursue a master's degree in paediatric speech pathology.

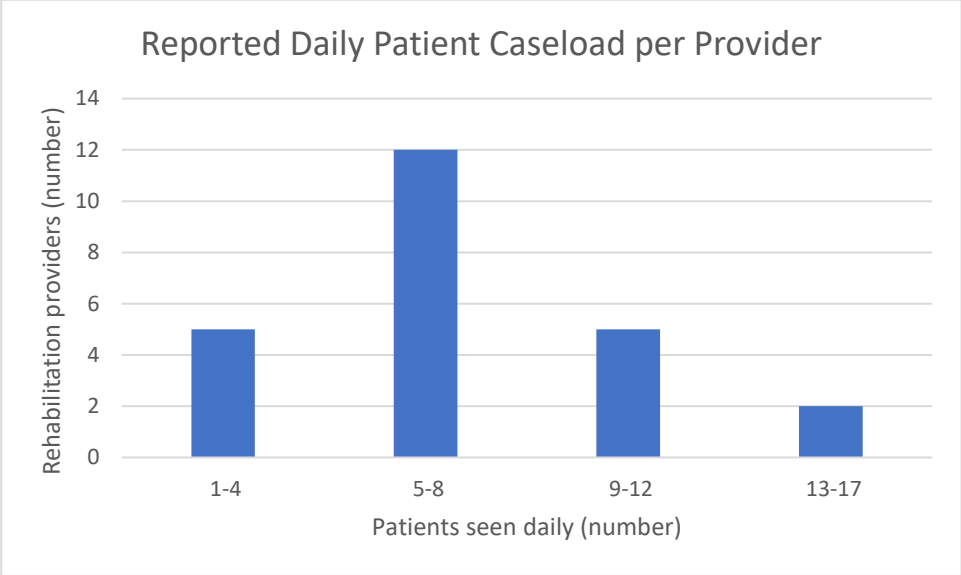
Table 5.12: Expressed future plans for undertaking further qualifications

Planned Further Qualifications	Number of Rehabilitation Providers (n=24)
Audiologist	**1**
No current plans for further study	1
Occupational therapist	**10**
No current plans for further study	4
Hand Therapy	2
Neurology	2
Functional Capacity Evaluations	1
Public Health	1
Physiotherapist	**10**
No current plans for further study	1
Masters in Physiotherapy	4
Masters in Sports Physiotherapy	3
Neurology	1
Commerce	1
Physiotherapy assistant	**2**
Physiotherapy Training Technician	2
Speech and Language therapist	**1**
Masters in Paediatric Speech Language Pathology	1
Total	**24**

Productivity & Performance

The reported number of patients seen daily by each rehabilitation provider varied across health facilities (figure 5.16). The most frequently cited caseload was 5-8 patients per provider, as reported by half (n=12) of the rehabilitation providers. Two rehabilitation providers cited caseload was 13-17 patients per provider. The remainder of rehabilitation providers saw 1-4 (n=5) and 9-12 (n=5) patients each.

Figure 5.16: Numbers of patients/clients seen on average by the rehabilitation providers



Most health facilities were reported to have a caseload of 5-8 patients per rehabilitation provider (table 5.13). Health facility 3 reported the highest caseload per rehabilitation provider (9-12 and 13-17). This is the health facility which employs the highest number of rehabilitation providers amongst the health facilities and has a bed capacity of 146. The two health facilities in which there was only one rehabilitation provider (HFs 4 and 6) differed markedly in the number of patients seen and saw 1-4 and 9-12 patients, respectively. This difference may be related to the health facility bed capacity, where HF 4 has a bed capacity of 40 and HF 6 of 150.

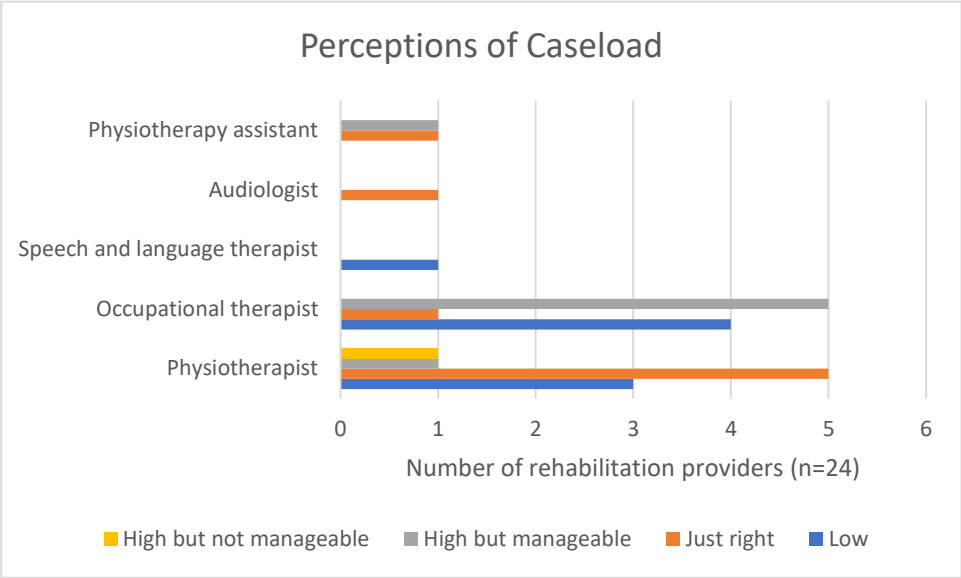
Table 5.13: Reported patient caseload by health facility

Patients seen daily per provider (number)	Health Facilities
1-4	HF 2 HF 4 HF 7 HF 8 HF 9
5-8	HF 1 HF 2 HF 5 HF 7 HF 8 HF 9
9-12	HF 1 HF 3 HF 6 HF 7
13-17	HF 3

In terms of rehabilitation providers' perceptions of their own caseload, eight reported that the workload was "just right" (n=8) while another eight reported a "low" caseload (n=8). There were seven rehabilitation providers who had a "high but manageable" (n=7) workload. One reported having their caseload as "high and difficult to manage" (n=1).

By provider type (figure 5.17), 5 of the 9 occupational therapists reported that their caseload was "high but manageable" (n=5/9) while 4 reported a low caseload (n=4/9). Amongst physiotherapists, most of them (n=5/9) perceived their caseload as just right. The speech and language therapist reported a low caseload while the audiologist reported a caseload which was "just right". There was only one provider, a physiotherapist, who reported a "high and difficult to manage" caseload. This suggests that the variations in perceived caseload were unlikely related to provider type.

Figure 5.17: Rehabilitation providers' perceptions of their workload



The caseload was reported to vary depending on the time of the month, with higher caseloads coinciding with patients' paydays and lower caseloads coinciding with rainy weather. Across most health facilities (HFs 1-7), there was consensus that the days in which the caseload was higher than usual was on patients' paydays or immediately thereafter as most of the patients were reliant on government social security grants which are paid out at the end of the month. On the days where the caseload was lower than usual, rehabilitation providers from HFs 1, 2, 3, 5, 7 and 9 reported that these were on the days of cold and rainy weather because their patients lived far away and often had to walk part of most of the distance to the health facility. This also reflects the long distances between patients' homes and the health facility. In terms of working hours, none of the rehabilitation providers reported working on weekends.

Beyond seeing patients within the health facility, rehabilitation providers reported that there were referral networks along which patients could be referred for attention at higher or lower levels of care. Rehabilitation providers from HFs 1, 2, 3, 5 and 8 all reported the presence of community health workers or community disability workers who refer patients from the community level to the health facility or who follow up patients at the community level after discharge. Additionally, rehabilitation providers from HF 2 reported referring patients to or receiving referrals from a local NGO. Lastly, all health facilities referred patients to and received referrals from regional hospitals including the Orthopaedic and Prosthetics Centre at Bedford Orthopaedic Hospital and Nelson Mandela Academic Hospital, which represent higher (more specialised) levels of care compared to the participating health facilities (district hospitals).

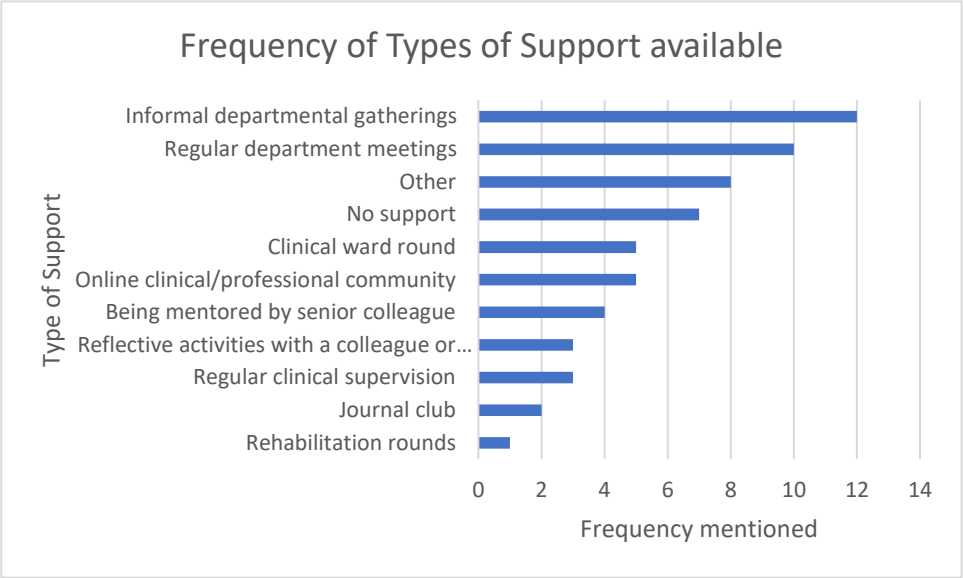
In addition to seeing patients, rehabilitation providers also had additional responsibilities within their respective health facilities (table 5.14). Most rehabilitation providers reported that their additional responsibilities included attending clinical and professional training courses, procuring assistive devices, equipment and consumables, and writing reports regarding rehabilitation service delivery. Half of the rehabilitation providers reported creating and running patient related programmes or projects. These are activities which are directly related to service delivery. Responsibilities which were less common but reported were advocacy work related to rehabilitation services, preparation of rotas and activities for the team, presenting cases or academic journals, providing support to junior colleagues, and conducting audits. While these responsibilities were not directly related to rehabilitation service delivery, they were activities which supported rehabilitation providers' abilities to navigate the work demands, and they supported actions for service delivery.

Table 5.14: Additional responsibilities of rehabilitation providers

Additional Responsibilities	Provider Responses (frequency)
Attending clinical/professional training courses	19 (79%)
Assistive device Procurement	16 (66.7%)
Equipment and consumables procurement	16 (66.7%)
Writing reports regarding rehabilitation service delivery	15 (62.5%)
Delivery of outreach rehabilitation services at clinics	13 (54.2%)
Conducting home visits	12 (50%)
Creating and running patient projects/programmes	12 (50%)
Advocacy work (projects, meetings, speaking engagements, community engagement)	7 (29.2%)
Preparing rotas and activities for team buildings or informal meetings	6 (25%)
Presenting cases at ward rounds	5 (20.8%)
Providing support or supervision to more junior colleagues	4 (16.7%)
Preparing rotas for meetings/journal clubs	3 (12.5%)
Performing audits of the rehabilitation service in the health facility	4 (16.7%)
Presenting academic articles at journal club/similar meetings	1 (4.2%)
Other	4 (16.7%)

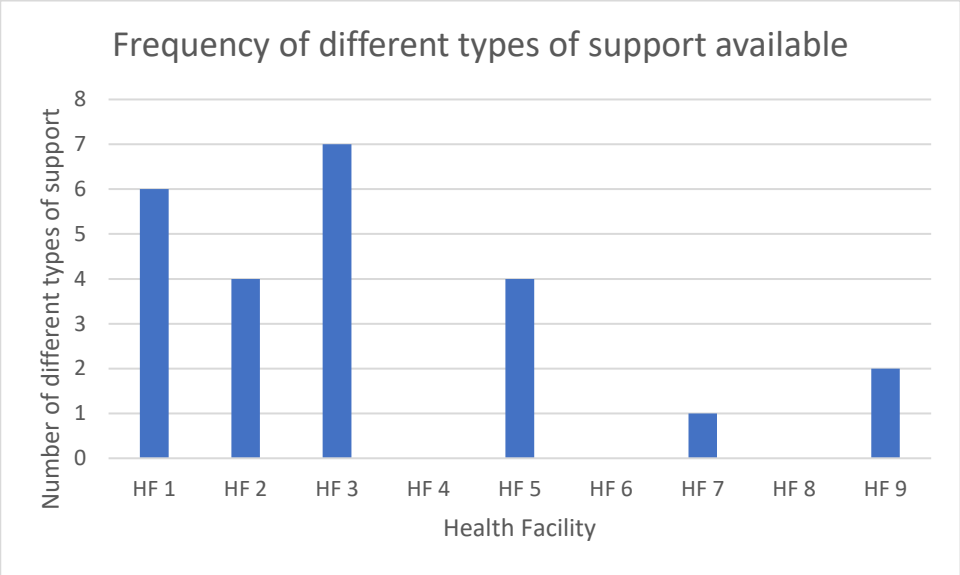
In order to perform their roles well, support such as supervision and continuous professional development is required. Rehabilitation providers reported a variety of types of support to aid them in performing their roles (figure 5.20). However, overall, the coverage of support available to rehabilitation providers was relatively limited. Informal departmental gatherings were the most frequently cited type of support available (n=12) representing half of rehabilitation providers, followed by regular departmental gatherings (n=10). Almost a third (n=7) reported that they had no support from the health facility.

Figure 5.20: Types of support available in health facilities



The reported coverage of support across health facilities varied widely with no particular pattern (figure 5.21). When the frequency of support available was disagreggated by health facility, HFs 4 and 6, which each have one rehabilitation provider, and HF 8 had no support available. This appears counterintuitive since these are the health facilities which would likely benefit the most from support. Rehabilitation services in HFs 4 (n=1), 6 (n=1) and 8 (n=2) were primarly run by community service level providers. Health facilities 3 and 1 had relatively higher availability of support to perform their roles. This might explain why providers in these health facilities (with the exception of two in HF 1 who reported a "low" caseload) felt they were better able to cope with the caseloads. The types of support which were cited by rehabilitation providers from HF 3 were diverse, namely regular departmental meetings (n=4), informal departmental gathering (n=4), clinical ward rounds (n=4), journal club (n=2), reflective activities with a peer or senior colleague (n=2), rehabilitation rounds (n=1), and online clinical/professional community (n=1). Similarly, the types of support which were cited by rehabilitation providers from HF 1 were diverse and were informal departmental gatherings (n=3), regular clinical supervision (n=2), regular department meetings (n=2), being mentored by a senior collegue (n=2), clinical ward rounds (n=1) and online clinical/professional community (n=1).

Figure 5.21: The availability of different types of support available in each facility



With regards to the perceptions of the support that was available, rehabilitation providers mostly reported that it was "inadequate" (table 5.15). Amongst the ten rehabilitation providers who perceived the available support as "inadequate", all of them were community service level providers, and were employed at six of the nine health facilities. Amongst those who perceived their support to be excellent (n=4), they were occupational therapists (n=3) and one physiotherapist. Three of these four providers were from HF 3 and the other was from HF 2.

Table 5.15: Provider perceptions of adequacy of support received

Perceived adequacy of Support	**Respondents**
Excellent	4
Good	6
Moderately adequate	4
Inadequate	10
Total	**24**

Propensity of rehabilitation staff to Remain

Of the 24 rehabilitation providers who responded, one questionnaire did not clarify plans for remaining in the current health facility and thus was excluded from this section of the analysis.

Therefore, the following results represent the responses of 77% of the total rehabilitation providers in the district of OR Tambo.

When asked about their plans to remain in their current health facility, 16 of the 23 participants reported that they had intentions to leave within the next two years while seven participants intended to remain in their current health facility (table 5.16).

Table 5.16: Reported plans for retention

Plans for Retention	**(n=23)**
Remain within the next two years	7
Leave within the next two years	16

When intentions to remain in the current health facility were analysed by professional level, the majority of those intending to leave were those in the community service level providers (table 5.17). Of the 16 community service level providers, 14 of them had intentions to leave, and of the eight permanent providers, two had intentions to leave. Community service post holders were all on a one-year contract but there was a possibility that they could be absorbed into a permanent post in their health facility if a funded post was available or could be motivated for.

Table 5.17: Reported intentions to leave by professional level

	Community Service	**Permanent**	**Total**
Remain within the next two years	2	6	8
Leave within the next two years	14	2	16
Total	16	8	24

Additionally, when intentions to remain in the current health facility were analysed according to health facility, the majority of rehabilitation providers in each health facility were intending to leave. This suggests that there was a high anticipated turnover of rehabilitation providers across health facilities. Specifically, HFs 4, 6, 7 and 9 had an anticipated turnover rate of rehabilitation

staff of 100% within the next two years (table 5.18). Health facilities 1 and 2 had an anticipated turnover of 60% and 75% respectively. Health facilities 5 and 8 each had an anticipated turnover rate of 50%. For health facilities 4 and 6, this meant that a completely new individual would need to take over the department after one year. This would leave potentially little room to develop and

Table 5.18: Anticipated turnover rate across health facilities

Health Facility	Planning to Leave (Number)	Number currently employed	Anticipated Turnover (percentage)
HF 1	3	5	60%
HF 2	3	4	75%
HF 4	1	1	100%
HF 5	1	2	50%
HF 6	1	1	100%
HF 7	3	3	100%
HF 8	1	2	50%
HF 9	3	3	100%

The reasons cited by those intending to leave were wide ranging and were mostly related to professional factors, with the exception of “safety concerns”. Figure 5.22 reports on the cited reasons as selected from pre-coded response options, for leaving and the frequency they were cited by participants. “Resources” as a major reason for leaving corresponds with the low availability of assistive devices and consumables found in the health facility assessment. “Limited learning” opportunities as another major reason may also coincide mostly with those providers who are still early on in their professional journeys and are looking for opportunities to practice and expand their skills, namely the community service providers.

Figure 5.22: Cited reasons for leaving current health facility

Further analysis revealed the reported future work plans of those who had intentions of leaving their current health facility (table 5.19). The most cited area of work amongst respondents was to remain in the public health sector (n=13) while the least cited intended area of work was the education sector (n=2). This suggests that there remains a large opportunity for rehabilitation providers to remain in the public sector but possibly with the requirement that the necessary resources and learning opportunities be made available.

Table 5.19: Reported future work plans

Type of Facility after leaving	Frequency Mentioned
Any HF in public sector	13
Private HF	6
Another rural HF	4
School/educational sector	2

Additionally, the factors contributing to rehabilitation providers who wanted to remain in their current health facility were both professional and personal reasons. Professional factors were cited

six times while personal factors were cited five times. Examples of professional factors collected as free text included the opportunity to develop newly acquired skills and the desire to keep the service going, a workplace which values a culture of learning, the ability to implement clinical protocols and projects sustainably, the opportunity to pursue daily challenges and complete a research publication, valuing the clients and an enjoyment of the teamwork, and the job itself. Examples of personal factors were related to being closer to home and family for those who were originally from the health facility area, a sense of giving back to the community, enjoyment of the nature and outdoor activities and good relationships and overall quality of life.

5.4 Discussion

The findings of this chapter point to key policy-implementation gaps in health facilities as observed in the accessibility of rehabilitation departments, and the availability of assistive devices, consumables, equipment and rehabilitation providers in OR Tambo district.

There is some evidence that the literature relating to health policy and systems research within rehabilitation is scarce. A recent study reported that only 3.9% of all health systems related publications were in rehabilitation, and of these only 9.3% were focussed on LMICs (Jesus, Hoenig and Landry, 2020). Similarly, a study highlighted the evidence gaps relating to how rehabilitation policy has been implemented in South Africa, despite South Africa ratifying the UNCRPD (Mji *et al.*, 2013) Therefore, the findings of my study address the gap in available health policy and systems evidence within rehabilitation in a middle-income country by examining the policy-implementation gaps in health facilities. The findings of the study in OR Tambo district support those of a study which argues that unless significant investment is made in each health system component of rehabilitation in South Africa, the country is unlikely to meet its policy goals and those stipulated in the WHO Rehabilitation 2030 Initiative (WHO, 2017b; Morris *et al.*, 2019).

Another qualitative study exploring the reasons for the gaps in the UNCRPD rehabilitation articles reported that the implementation gaps between the UNCRPD rehabilitation articles and available

rehabilitation services in South Africa were related to inaccessible health facility infrastructure and limited availability of rehabilitation providers (Hussey, Maclachlan and Mji, 2017). The limited accessibility of health facilities and availability of rehabilitation providers contributed to the policy-implementation gaps in OR Tambo district, thus supporting the findings from Hussey, Maclachlan and Mji (2017).

Other studies have also examined the gaps within the rehabilitation policies themselves, which then are likely to result in policy implementation gaps. For instance, a study found that relative to international wheelchair provision guidelines, South Africa's wheelchair policy omitted service steps relating to referral pathways, preparation of products and follow up (Visagie, Scheffler and Schneider, 2013). While this study focussed on a particular policy's implementation relative to an international guideline, the findings of my policy review (chapter 4) highlighted aspects of South Africa's rehabilitation policies which had narrow specification or where components were absent. The gaps that are evident in rehabilitation policies have also been observed in HICs. A study found that Ireland's rehabilitation policies had gaps as they related to neuro-rehabilitation (Burke *et al.*, 2020). The authors attributed these gaps to a lack of available data regarding people with an acquired brain injury. Since the rehabilitation policy review did not examine the policy formulation process, I could not establish what factors influenced it. Therefore, further research should examine the policy formulation processes in South Africa which give rise to the rehabilitation policies.

Other health services, such as those for mental health, have also been reported to demonstrate gaps between the relevant policies and available services in the public health sector. Research suggests that the policy implementation gaps in mental health services in South Africa are attributable to inadequate district health facility infrastructure, providers (of which speech and language therapists, occupational therapists and audiologists are part of) and essential medicines (Docrat *et al.*, 2019). Rehabilitation services and mental health services have similar goals since the

primary aim of intervention is related to functioning and reduction of disability, with the secondary aims addressing the reduction in mortality. Since rehabilitation providers often constitute the healthcare team managing mental health patients, investing in the expansion of the rehabilitation workforce will not only benefit rehabilitation service provision but also mental health service provision.

Although the implementation gap was evident across all health facilities in OR Tambo district, it was not uniform. This part of the discussion will now provide a summary box of the gaps observed and then discuss the related findings according to each of the elements which I examined.

Accessibility

Box 5.1: Summary of gaps in Accessibility

Gap findings:

- Treatment spaces available for all rehabilitation providers.
- Moderate accessibility in four of the nine health facilities (n=4/9)
- Low accessibility in five health facilities (n=5/9)

Gap discussion

In OR Tambo district, where providers were employed in health facilities, there were treatment spaces available to provide the services. However, in health facilities where occupational therapy, speech and language therapy and audiology were not present, there were no treatment spaces available for these absent services. Therefore, OR Tambo district lacks the treatment spaces required to expand the types of rehabilitation services on offer. This means that to effectively introduce occupational therapy, speech and language therapy and audiology in the future in line with the rehabilitation policies, it would require both employing additional rehabilitation providers and making the infrastructural additions to accommodate these new employments.

This relationship between the types of rehabilitation services available and the relevant dedicated treatment spaces might also be observed more broadly in South Africa's health facilities (Health Systems Trust, 2013). For instance, the results from the national health facilities survey reported that amongst all hospitals, 69% offered occupational therapy and 61% had treatment areas for occupational therapy; 37% offered speech and language therapy and 33% had the related treatment areas; and 32% offered audiology and 31% had audiology treatment areas (Health Systems Trust, 2013). Similarly, another study in Zambia, which reported the presence of only one audiologist and no registered speech and language therapists in the country, also reported that 6.6% of hospitals had audiology assessment areas and one hospital had a dedicated treatment area for speech and language therapy (Lukama, Kalinda and Aldous, 2019). Together these findings demonstrate that in health facilities which do not offer certain types of rehabilitation service, it is unlikely that there will be treatment spaces available for these absent rehabilitation providers. Conversely, where treatment spaces are not available in health facilities to support rehabilitation service provision, it is unlikely that this will attract rehabilitation providers or result in their employment at these health facilities. Therefore, to expand rehabilitation service availability, treatment spaces in health facilities should first be expanded by either adapting existing rooms and hallways or by building onto the existing rehabilitation department infrastructure.

The study in OR Tambo district examined both the rehabilitation departments' infrastructure and the extent to which this infrastructure was accessible to people with disabilities. The areas where gaps in accessibility were most evident were regarding accessible toilets and navigating in and around the health facility. This supports the findings of a national survey of people with mobility disabilities in Peru, where almost 70% of respondents reported an absence of either ramps, handrails, elevators, or adapted bathrooms in health facilities (Moscoso-Porras, Fuhs and Carbone, 2019). Although none of the health facilities were fully accessible to people with disabilities, health facilities were more accessible for people with mobility disabilities compared to other types of disabilities such as sensory disabilities. This means that people with disabilities attending health

facilities in OR Tambo district are likely to require another individual to accompany them to the health facility which may impact on individuals' finances and sense of independence. This is in opposition to South Africa's efforts to promote the independence and wellbeing of people with disabilities through ensuring that all buildings are fully accessible. The need for accompaniment to health facilities amongst people with disabilities in order to navigate and engage with healthcare professionals has been reported previously (Reed *et al.*, 2020). Accessibility barriers such as communication barriers, physical infrastructure barriers and information barriers have been reported across different types of health services including dentistry, tuberculosis care and maternal health care (Kritzinger *et al.*, 2014; Eide *et al.*, 2015; Grut *et al.*, 2015; Rocha, de Lima Saintrain and Fernandes Vieira-Meyer, 2015; Ganle *et al.*, 2016; Pereira Martins *et al.*, 2016; Gichane *et al.*, 2017; Devkota *et al.*, 2018; Gudlavalleti, 2018). Each of these studies used different methodologies for examining accessibility since countries differ in their standards of reporting. For example, in South Africa, accessibility of clinics is assessed according to the items defined in the *Ideal Clinic Framework* in which accessibility of the clinic is assessed for wheelchair users only with no consideration of other types of disabilities, and it does not specify thresholds for what would be considered as accessible (Department of Health, 2018b). In the US, accessibility of health facilities is often assessed according to the American with Disabilities Act (Stillman *et al.*, 2017). Therefore, in order to increase comparability across settings, there is a need to use standardised assessments such as the Sightsavers Accessibility instruments (Pregel and Smith, 2019).

There have also been studies which have reported contrary findings related to accessibility. A study in a Ghanaian city reported that of the 12 health facilities investigated, 92% of them were accessible to people in wheelchairs, a figure markedly higher than that reported in OR Tambo district (Yarfi, Ashigbi and Nakua, 2017). This difference may be related to the fact that the authors included buildings which were built after the year 2006, which marks the year that the Disability Law in Ghana was passed thus it is likely that buildings built after 2006 would comply with the Disability Law. In OR Tambo district, despite overall accessibility being low, mobility accessibility was

relatively better. In another study conducted in a city area of Nigeria investigating the wheelchair accessibility of 38 public buildings, the authors found that two of the three hospitals included were accessible suggesting that hospitals in the study were largely accessible to people using wheelchairs (Hamzat and Dada, 2005). However, the sample of health facilities was small. Additionally, in both the studies of Ghana and Nigeria, the assessment of accessibility was limited to only one type of disability while the study of OR Tambo district assessed a variety of disabilities, which may have in both cases accounted for the higher accessibility reported.

Rehabilitation Service Capacity

Assistive devices

Box 5.2: Summary of gaps in Assistive Devices

Gap findings

- 2-22% availability according to WHO APL
- N=5/9 had wheelchairs
- N=2/9 hearing aids available

In OR Tambo district, the availability of assistive devices in health facilities was low regardless of whether it was analysed according to a comprehensive list of 50 items or a minimum list of five items. This supports the findings of a systematic review of LMICs which found that access to assistive devices for people with disabilities was low at 0-66% (Bright *et al.*, 2018). However, the included studies in the systematic review utilised a variety of instruments including clinical assessment, self-report according to functional domains and other self-reporting tools. Therefore, comparability of the estimates found between both the included studies in the systematic review and in OR Tambo district is difficult. Even so, both studies point to a gap in the availability of assistive devices and likely to an unmet need for assistive devices. The Rapid Assistive Technology Assessment (rATA) represents the most recent global efforts to address this need for systematic data collection on the needs for assistive devices (WHO, 2021c).

The availability of assistive devices in OR Tambo district corresponded with the availability of types of rehabilitation services, which is why hearing-related assistive devices were available only in the two health facilities which employed audiologists. Of the five health facilities that had wheelchairs available, four of them had standard folding frames only, which are a manual type of wheelchair. Similarly, a study of rural health facilities in South Africa found that only one type of wheelchair, the standard folding frame, was available to be issued to those that needed wheelchairs (Visagie, Scheffler and Schneider, 2013). Together, these findings suggest that while wheelchairs may be available in health facilities in OR Tambo district, there may not be of the variety required to address the diversity of impairments, abilities, and environments of each individual patient. Further research should examine what types of wheelchairs are required to address the existing needs since the current study could not establish this.

The Global Co-operative on Assistive Health Technology (GATE) Priority List of 50 assistive devices, which guided the assessment in the current study, is comprehensive and intended to guide countries in formulating their own essential lists of assistive devices (WHO, 2016). Not surprisingly, most assistive devices on the GATE APL were not available at the health facilities at any point in time. For example, it is unlikely that there will be unused stock of wheelchairs waiting to be issued. South Africa has not yet formulated its own list of priority assistive devices but there are guidelines which address various assistive devices, each to varying extents (Department of Health, 2003, 2011b, 2018c) . In developing a list of priority assistive devices, South Africa might draw lessons from Tajikistan, where a national list informed by key stakeholders and by data has been developed (Mishra *et al.*, 2020). The findings from the study in OR Tambo district offer the opportunity to inform South Africa's development of its own list of priority assistive devices. The development of a national priority list will support policy implementation related to the provision of a broader range of assistive devices in South Africa.

Studies in South Africa have highlighted the gaps in the provision of assistive devices. Unmet needs for rehabilitation services, including assistive devices were reported to be one third of people with disabilities in an urban and low-income area in South Africa (Maart and Jelsma, 2014). Another study in South Africa assessing the supply and need for hearing rehabilitation, namely hearing aids, found that only 15.2% of patients who, upon clinical assessment, required hearing aids received them (Hlayisi and Ramma, 2019). Both wheelchairs and hearing aids are intended to be available through the public health sector via tender. In fact, mobility assistive devices are well represented in South Africa's national catalogue for items available on tender, along with hearing and communication assistive devices (Department of Health, 2018d). These findings of a potential unmet need due to limited availability of assistive devices are supported by the findings in OR Tambo district. And yet, district hospitals have the largest health expenditure in the provincial health budgets, more so than clinics and community health centres and thus are better resourced to provide rehabilitation services (Massyn *et al.*, 2020). For example, in OR Tambo in the 2019 financial year, 26.8% of the provincial budget was allocated to district hospitals while 18.2% was allocated to clinics and 12% was allocated to community health centres. Since there is evidence of funds being allocated to OR Tambo district, this suggests that there may be bottlenecks in how items reflected on government tender documents become available in health facilities, thus pointing to bottlenecks in procurement systems, prioritisation and resource allocation practices at the level of OR Tambo district.

Consumables

Box 5.3: Summary of gaps in Consumables

Gap findings
• 2-47% availability of consumables

The availability of consumables in OR Tambo district was low at 2% to 47% across health facilities but there was wide variation between health facilities. Health facilities 5 and 3 had the highest availability of consumables. Health facility 5 offered both occupational therapy and physiotherapy, while HF 3 offered occupational therapy, physiotherapy, audiology and speech and language therapy. The higher availability of consumables in HF 5 and 3 may be explained by the presence of more than one type of rehabilitation service since each type of service makes use of different types of consumables in their consultations. So, a higher availability of consumables reflects a greater diversity of rehabilitation service types. However, this explanation did not account for the low availability of consumables in HF 7, which offered occupational therapy, physiotherapy and speech and language therapy. Despite the presence of a speech and language therapist in the health facility, there were no consumables available for this type of rehabilitation service, suggesting that other factors related to the health facility procurement system processing times and related funding, as well as the relative lower prioritisation of speech and language therapy services may be playing a role.

The literature examining the availability of consumables for rehabilitation services is lacking. This is likely a reflection of the paucity of health facility assessment tools which assess rehabilitation services. For instance, the SARA evaluates the availability of consumables such as new-born eye ointment, condoms and ice packs for medicine preservation but not for rehabilitation service provision (WHO, 2015b). The recent HHFA examines only one consumable, namely compression bandages, and therefore is lacking in this regard (WHO, 2021b). Similarly, the STARS template for rehabilitation information collection (TRIC) requires countries to describe the state of the availability of consumables but the tool does not specify what those consumable should be (WHO, 2019b).

In OR Tambo district, the availability of consumables was especially scarce amongst speech and language therapy services. Since the equipment and consumables are usually used together, the

relative absence of consumables made the presence of equipment obsolete. For example, splint-making equipment was irrelevant if the splinting materials were unavailable; just as assistive devices manufacturing kits were irrelevant if wood, paper and materials were unavailable. Similarly, between consumables and assistive devices, the availability of ferrules supported the availability and prescription of walking sticks and crutches since these could not be issued safely without ferrules. This synergistic relationship between assistive devices, equipment and consumables means that interventions to improve availability must simultaneously address all three because addressing only one of these will not effectively improve provision.

Equipment

Box 5.4: Summary of gaps in Equipment

Gap findings
• 40-90% availability of equipment

The proportions of available equipment for rehabilitation services ranged from 40% to 90% across health facilities, indicating a relatively higher availability compared to that of consumables and assistive devices. Equipment items such as treatment plinths and goniometers are often once-off purchases, unlike consumables and assistive devices. Therefore, equipment availability possibly does not reflect current funding availability in health facilities in the same way that consumables and assistive devices might. Even so, there were gaps in the availability of rehabilitation equipment across all health facilities which will now need additional funding to address.

The findings of gaps in equipment availability in OR Tambo district support the findings of other studies. A study in Ghana reported that the availability of equipment such as weight machines, cardio equipment and treatment plinths was between 22-67% across the nine health facilities which were included (Christian *et al.*, 2016). Amongst a national survey of South African health

facilities, equipment was reported to be available in 65% of hospitals for physiotherapy, 55% for occupational therapy, 32% for speech therapy and 29% for audiology, similar to the findings in OR Tambo district (Health Systems Trust, 2013). The instruments used to examine equipment availability in Ghana, South Africa and OR Tambo district all differed in terms of the items included. This highlights the need to create a standardised assessment for rehabilitation equipment in health facilities which can be used to generate the relevant evidence. Linked to this is the scarce literature in existence which examines rehabilitation equipment in health facilities. Additionally, South Africa's estimates for equipment availability from 2013 are now outdated and updated estimates are required. This is relevant if South Africa's rehabilitation policies are to be operationalised.

Human resources

Box 5.5: Summary of gaps in Rehabilitation Human Resource

Gap findings

- N=1/9 had full complement of core rehabilitation team
  - N=9 had physiotherapy
  - N=6 (67%) had occupational therapy
  - N=2 (22%) had speech and language therapy
  - N=2 (22%) had audiology

- Perceived adequacy of support
  - "Inadequate"- 10/24
  - "Moderately adequate"- 4 /24
  - "Good"- 6/24
  - "Excellent"- 4/24

- Anticipated retention
  - 4/9 100%
  - 1/9 75%
  - 1/9 60%
  - 2/9 50%

The findings from OR Tambo district reveal that the rehabilitation workforce was not expected to be stable within the next two years. Instead, there was a high anticipated turnover rate. Major reasons for leaving in OR Tambo district were reported as limited learning opportunities for

rehabilitation providers and the limited availability of resources for providing rehabilitation services. Since most of the rehabilitation providers in OR Tambo district were recent graduates, it is understandable that they would be seeking opportunities to develop as they begin their careers, particularly since many were thrust into roles where there were no senior rehabilitation providers.

The identification of limited resources as a negative contributor to retention supports the gaps observed in the low availability of assistive devices and consumables in the health facility assessments. This echoes the findings of other studies exploring retention amongst rehabilitation providers. Amongst rehabilitation providers practicing in rural Australia staff shortages, especially of senior staff, were reported to result in limited support and mentorship for rehabilitation providers (Kumar *et al.*, 2020).

In OR Tambo district, it was unclear what career paths existed for rehabilitation providers even though the providers were actively participating in professional development training. This may have also negatively impacted retention since previous studies have found that clearly charted career paths fostered by professional development and supervision encourages the retention of rehabilitation providers (O'Sullivan and Worley, 2020). Regarding support to perform their work, the findings from OR Tambo district revealed that rehabilitation providers perceived that they had very limited support. Additionally, it was not so much the size of the caseload but rather the perceived ability to cope with it which affected perceptions of the adequacy of support available. For instance, HF3's rehabilitation providers, who had a relatively higher reported caseload perceived their caseload to be "just right" or "high but manageable". This suggests that there may have been personal or professional factors which helped them cope with the demands of the workload. Conversely, the HF 5 rehabilitation provider who saw 5-8 patients reported that this caseload was "high and difficult to manage" while the other rehabilitation provider in the same health facility reported a caseload that was "high and manageable". Since there is agreement between the two providers in HF 5 in terms of caseload size, this suggests that the differences in

perception may be related to other factors, such as a sense of being supported and having a social network, which influence a provider's ability to cope with the demands of the caseload, as has been described in the literature (Mbemba, Gagnon and Hamelin-Brabant, 2016).

One study reported that travelling long distances for work and inflexible working arrangements were major negative contributors to retention amongst rehabilitation providers in rural Australia (Gallego *et al.*, 2015). Interestingly, since the provision of outreach rehabilitation services was irregular or non-existent, and services were often provided at the health facility, travelling long distances for work was not reported to negatively influence retention. However, the consideration of distance for attending professional development course was raised because of the remoteness of OR Tambo district. This means that increasing opportunities to professional development courses will need to account for the additional travel time and costs incurred by rehabilitation providers in OR Tambo district.

Retention amongst rehabilitation providers in rural areas is of particular importance when the increases in graduate output are unpredictable or low. For instance, amongst audiologists and speech and language therapists in Sub-Saharan Africa, graduate output increased by 2.5% and 30% respectively over a six-year period but the availability remained well below those of HICs (Mulwafu et al., 2017). Even so, in a national survey of stroke units in the UK, only 16% and 42% of units met the staffing guideline recommendations for speech and language therapy and physiotherapy, respectively (McHugh and Swain, 2014). This suggests that retention of rehabilitation providers, especially amongst speech and language therapists remains a challenge even in HICs but it is likely that the extent of the challenge is greater in LMICs (Shirazikhah *et al.*, 2017; Lukama, Kalinda and Aldous, 2019; Bernhardt *et al.*, 2020). In order for countries to prepare for and respond to issues relating to retention, there is a need to establish thresholds for what the optimal quantity, distribution and mix of rehabilitation providers is. In OR Tambo district, the distribution of rehabilitation providers was clustered in the health facilities located in the southern part of the

district. This distribution of the rehabilitation providers coupled with the uneven patchy coverage of outreach services, may point to a sub-optimal distribution of rehabilitation providers in the district.

Chapter 6: Factors contributing to the Implementation Gap

6.1 Introduction

In chapter five, I examined and described the implementation gap between South Africa's rehabilitation policies, and the available rehabilitation services in the district of OR Tambo. The findings pointed to a marked implementation gap in the domains of accessibility of rehabilitation departments, rehabilitation service capacity and the rehabilitation workforce all at the level of the health facility in OR Tambo district. Given the presence of these implementation gaps in OR Tambo district, this chapter now explores the factors which may be contributing to this implementation gap from the perspectives of rehabilitation managers in the health facilities (district hospitals) in OR Tambo district.

Various studies in low- and middle-income countries (LMICs) and high-income countries (HIC) have explored the implementation of policies and have shown that implementation of policies by stakeholders at the coalface of provision of services is complex and dynamic (Gilson *et al.*, 2017a; Nxumalo *et al.*, 2018; Sriram *et al.*, 2018). These studies have examined the people involved in the process of implementation, as well as how their roles, relationships and views have influenced implementation (Ditlopo *et al.*, 2015; Razavi *et al.*, 2019; Urquhart *et al.*, 2019; Lall *et al.*, 2020; Parashar *et al.*, 2020). Other studies have reported on how resource availability enhances or limits policy implementation at the health facility level (Gilson *et al.*, 2017b; Waithaka *et al.*, 2018; Hlayisi and Ramma, 2019; Muthathi, Levin and Rispel, 2019). These studies have described the processes involved in determining the need for such resources, the allocation of resources and purchasing arrangements for obtaining resources. Still, other studies have focussed on how the evaluation of policy goals, including accountability monitoring and the required data systems, also inform whether and how policy aspirations are achieved (Gilson *et al.*, 2017b; Suchman *et al.*, 2020).

The literature convincingly suggests that the implementation of health policies is often complex and dynamic across country contexts and types of programmes or services. However, with the exception of Hlayisa and Ramma (2019) whose study focuses on South Africa, none of these studies have explored implementation as it relates to rehabilitation services. Even where Hlayisa and Ramma (2019) examine rehabilitation services, their study focuses on rehabilitation resources and not on the implementors of rehabilitation policy. Therefore, while their findings explicate the implementation gap with implications discussed, their findings are limited to only one factor, resource availability, influencing the implementation of rehabilitation services.

Therefore, given that the findings of Chapter 5 establish that there is an implementation gap in OR Tambo, and the literature demonstrates that multiple factors influence the process of policy implementation, this chapter will now explore the factors, from the perspective of rehabilitation service managers, which may be contributing to the observed implementation in rehabilitation services in OR Tambo district. Specifically, this chapter addresses the following research question:

> *Why is there an implementation gap between what South Africa's rehabilitation policies state and the available rehabilitation services in health facilities in OR Tambo district?*

The objective therefore is *to explore the factors which may be contributing to the implementation gap from the perspective of health facility-level managers of rehabilitation services in OR Tambo district.*

6.2 Methodology

I employed a flexible strategy within health policy and systems research (HPSR) (Robson 2002 in WHO, 2012). This study is a qualitative study underpinned by a social constructivist paradigm (Neuman, 2014). This is because while there are policies which guide the practice of rehabilitation managers in the district, the rehabilitation managers themselves experience various realities of these policies and their role in implementing them. Moreover, these realities are likely to be

influenced by health system factors such as the health facility and its norms, practices and relationships, as well as factors specific to the managers and their relationships.

Sample

The sampling that I employed in recruiting rehabilitation managers was convenience sampling (Neuman, 2014; Hinton and Ryan, 2020). The original aim was to include all rehabilitation providers in OR Tambo district who were formally recognised in their respective health facilities as being responsible for the planning, organisation and delivery of rehabilitation services. However, due to the leave of absence and resignations in health facilities 5 and 8, I did not conduct interviews, and the Chief Physiotherapist from HF 3 was not included.

The sample included a total of 12 participants in a series of nine interviews. In HF 1, two managers were interviewed together. This was because the managers of the occupational therapy and physiotherapy services were available on the same day and they work in the same department, allowing them to work closely together in their managerial and clinical duties. In HF 3, three managers were interviewed in three separate interviews. This was because audiology and occupational therapy managers work in separate areas of the health facility and also, they were available on different days according to their schedules. The third interview was with the clinical manager of HF 3 who oversees the clinical team including the medical and broader allied teams. I recruited the clinical manager in order to explore a positive deviant, as described by Neuman (2014), since HF 3 has a well-established and anecdotally celebrated rehabilitation department in OR Tambo district. In HF 7, three managers, occupational therapy, physiotherapy and speech and language therapy, were interviewed together. This was because all three were in their first year of work, they work in the same section of the health facility and they were available on the same day. In the remaining health facilities, HFs 4 and 6, one manager was interviewed per health facility. It is possible that rehabilitation managers who were interviewed together may have felt constrained

in expressing their opinions in the presence of their colleagues thus affecting the data collected I collected and my interpretation of it.

Data Collection

As the research question was exploratory, the data collection was in the form of semi-structured interviews (Hinton and Ryan, 2020) informed by the World Health Organisation's (WHO) health system components (WHO, 2010a). The interview guide (appendix 6.1) contained guiding questions related to leadership and governance, service delivery, workforce, financing, assistive technologies, and health information systems. I used appropriate prompts such as "Could you tell me more about…", "What do you mean by…", "Could you clarify who…" and "Am I correct in saying that what you have said is…" to gain clarity or to delve deeper into the insights raised during the questions. Additionally, I drew from the findings of the respective health facility assessment to delve deeper into key aspects of rehabilitation service capacity which had arisen but could not be explained by the health facility assessment data alone.

Each participant was provided with a printed participant information sheet (appendix 6.2) which contained information about the study and the rehabilitation manager interviews. All participants provided written informed consent. I kept a signed copy in a secure metal lock-and-key portable document holder. Each interview was conducted in English and took approximately one hour, although the interviews which had more than one participant took longer. I ensured that each participant was aware that they were free to leave during the interview should their duties require their attention. With the permission of the participants, each interview was audio recorded. I listened to the audio recordings of each interview and manually transcribed them. The resulting transcripts were in English and each participant was allocated a unique identifier to protect their identity should anyone else read the transcripts. The interviews amounted to ten and a half hours of audio material.

Data Analysis

I employed thematic analysis, specifically Framework Analysis, to analyse the interview transcripts given the objectives of my study and the time and logistical constraints (Gale *et al.*, 2013; Pope, Ziebland and Mays, 2020). This type of analysis has previously been used in policy analysis and lends itself to the exploration of how rehabilitation policy is implemented at the health facility level in district hospitals by rehabilitation managers, thus drawing from the preceding policy review conducted in chapter four. This allows a focussed approach to the policy and health system areas identified *a-priori*. Framework Analysis, which was originally developed by Jane Ritchie and Liz Spencer is useful for applied or policy relevant research (Pope, Ziebland and Mays, 2000). The method of analysis lends itself well to my research because the framework upon which the analysis was mapped was the WHO health system components which is also the framework which guided the development of the semi-structured interview guide. While literature amongst rehabilitation managers is limited, research amongst nurses, physicians - who act as managers of services - and frontline workers facilitated the *a-priori* formulation of codes, categories and themes (Ditlopo *et al.*, 2011, 2015; Nzinga, McGivern and English, 2018; Rwafa-Ponela *et al.*, 2020). Where themes previously not mentioned in the literature arose, these were coded and categorised. As I was conducting the analysis, it became apparent that the perspectives participants provided were not only related to the health system components, or the systems hardware, but also to the ideas, issues related to power, values and norms. Therefore, a more comprehensive guiding framework to the analysis of the transcripts was better encompassed by the depiction of the health system as having both *hardware* and *software* (Sheikh *et al.*, 2011). According to Sheikh and colleagues (2011) the health system is composed of both systems hardware and systems software. The systems hardware relates to the tangible aspects of the health system, such as human resources and financing, while the systems software relates to how individuals relate with each other and their motivations such as relationships and values.

Given that I had transcribed the transcripts by listening to the audio recordings, this initial stage served to familiarise myself with all of the transcripts thus enabling me to adapt the guiding framework for analysis. Using NVivo 11 software, I organised and stored the transcripts in preparation for a more thorough analysis (QSR International, 2017). I read through each transcript line by line and identified the relevant categories in the transcripts according to the *hardware* and *software* elements. Within "hardware", the data were then coded according to the six WHO building blocks. Each category represented one component of the health system. I then further organised each category into themes. Within "software", the data were then coded into six categories of ideas, interests, relationships, power, values and norms. Under "software" still, I then created themes as they related to the WHO health system blocks. This resulted in themes for each category under leadership and governance, service delivery, workforce, assistive technologies, financing and health information systems (all of which relate to the *hardware*), as well as ideas, interests, relationships, power, values and norms (all of which relate to the *software*). I then interpreted the themes by looking for connections between them to explore why there is an implementation gap between rehabilitation policies and available rehabilitation services at the health facility level and from the perspective of rehabilitation managers.

Reflecting on my Positionality

Prior to commencing with the interviews with the managers, I first met with each of them informally at the health facility in order to raise awareness about the study and to facilitate initial contact. Therefore, once data collection took place, I had developed rapport with the participants. As a physiotherapist myself who worked in one of the health facilities included in the study, I was aware that I have my own views and perspectives about rehabilitation services in OR Tambo district. In fact, my interest in how rehabilitation services are organised and delivered in light of guidance from the Department of Health was piqued when I was working as a physiotherapy community service officer in HF 3 in 2015. My practice of providing rehabilitation services to people in the health facility, the outreach clinics and in homes made me aware of the deep inequalities

which exist in OR Tambo district compared to the province in which I completed my physiotherapy training in Cape Town. Thus, I had an insider perspective with regards to rehabilitation service delivery in the district and the providers from one health facility. I also had an outsider perspective because it had been four years since I had left my job. Additionally, I did not have experience of the service provision of the other eight health facilities included in my study, which is why it was important to meet them informally prior to data collection. Having said that, I was intentional about making the participants aware of where I had worked previously.

I believe that my background and experience influenced my data collection in that I tended to be careful to not over-step or abuse boundaries. In practice what that meant was I only went to the areas where the interview was taking place and did not enter any of the wards or disturb patient consultations. During the interview, I checked with participants to clarify whether what I was comprehending was true to the meaning which they were attaching to their words, facial expressions, silences or body movements. With regards to the analysis, and in particular to my interpretation of the themes, I was aware that I needed to constantly refer to the themes as they appear in the transcripts even if they indicated an experience that was different to my time of working in OR Tambo district. Even so, it is possible that my very involvement in this work resulted in findings which may have been different if another researcher who had a different background and experiences had conducted this research. Having said that, my aim was to represent the experiences of the participants in light of the policies and what was found in the assessment of the health system. To mitigate the effect of my positionality and to promote trustworthiness of my findings (Nowell *et al.*, 2017), I met weekly with my supervisor. During these discussions, which were at times accompanied by several iterations of working drafts, we discussed the emerging data and my interpretations thereof.

6.3 Findings

I will describe the factors which are likely influencing the implementation of rehabilitation policies at the health facility level from the perspectives of rehabilitation managers. First, I will describe the role of *systems hardware* in limiting the process of implementation. Second, I will describe the role of *systems software* in limiting the process of implementation. The findings will demonstrate that the implementation of rehabilitation policies at the health facility level is limited by a complex web of systems components which has at its centre the limited power of rehabilitation managers in OR Tambo district.

6.3.1 Characteristics of Respondents

The characteristics of the respondents are presented in table 6.1. Among the 12 respondents, most were female (n=8). Respondents were from seven of the nine health facilities. To explore positive deviants, HF 3 also included the clinical manager of the health facility who has oversight over all the clinical teams in the health facility, including the rehabilitation team. One third of the respondents were occupational therapists, and another third were physiotherapists.

There were two audiologists, one speech and language therapist and one medical doctor. Half of the respondents were community service level providers, thus they were in their first year of work after graduating, while the other half were permanent staff. Among the permanent staff, years as a manager at the health facility varied from less than a year to 15 years.

Table 6.1: Characteristics of Respondents

	Number of Respondents (n=12)
Health Facility	
HF 1	2
HF 2	1
HF 3	3
HF 4	1
HF 5	0
HF 6	1
HF 7	3
HF 8	0
HF 9	1

Profession	
Occupational therapist	4
Physiotherapist	4
Audiologist	2
Speech and language therapist	1
Medical doctor	1
Professional Level	
Community service level	6
Permanent staff	6

6.3.1 Systems Hardware

Leadership and Governance

Entering the Role unexpectedly

The experience of coming into the role of being the manager of rehabilitation services varied between the participants. Most participants reported entering the role unexpectedly or by default. In particular, participants who were in their first year of work (community service level providers) reported having had an expectation that there would be a senior rehabilitation provider to guide and mentor them, and reported feeling unprepared for the role of managing the service.

> *"Well, by default, I had to take over because I was the only senior audiologist or senior person in this department."* (RM 3c, Permanent, audiologist, HF 3)
>
> *"Yes, I am the person who is in charge of the physiotherapy department in the whole hospital. So even though I am a comm serve, but I ended up doing more. Like maybe I'm supposed to be supervised by the senior physio but that's not happening because I'm the only one. So anything related to physio, it's me."* (RM 5, Community Service level, physiotherapist, HF 6)

Internal and External Governance Structures

Overall, participants reported dealing with the unexpected role by learning on the job and drawing support from professional networks, particularly the regional and provincial profession specific forums. The regional and professional forums present opportunities for rehabilitation managers to meet with the provincial and regional managers of rehabilitation services and to discuss pertinent matters. They were reported to act as points of dissemination of policy related information as well as support for managers tasked with running rehabilitation services. There are profession specific forums (namely the Occupational Therapy Forum, Physiotherapy Forum, Speech and Language and Hearing Forum) in which the managers meet separately according to their professions. There are also combined meetings in which all the managers of the different professions meet together to discuss cross-cutting issues relevant to rehabilitation services.

> *"If they (policies) are available, we get them from the provincial office during those meetings… The new assistive device policy was actually discussed in the previous meeting and was sent via Whatsapp."* (RM 1, permanent, physiotherapist, HF 1)
>
> *For now, people that have kind of guided me, because I didn't know anything to do with policies or anything like that so the hospital, Nelson Mandela, has been doing a good job, because we also have these quarterly meetings -provincial quarterly meetings- because sometimes there are courses there that they kind of tell us the kinds of things that we should look out for.* (RM 3c, Permanent, audiologist, HF 3)

However, there was a sense that while these forums were useful, they created a "dual loyalty" (RM 3b, permanent, medical doctor, HF 3) or tension. This is because participants were not only accountable to the internal governance structures of their respective health facilities but also to the external governance structures exerted by the management of various forums.

> *"Each discipline is a discipline in itself with its own professional issues and stuff that needs to be discussed so I think there's a… it's great to see those professional roles be meeting together and both as single disciplines and allied. What becomes interesting is where it creates dual loyalty. So I think sometimes there's been a kind of a background narrative of provinces telling physios they need to do x, y and z or they need to prioritise x, y and z or they need to report to so-and-so. That's why I was saying sometimes I'm copied in the report. Which is a bit weird because actually I should be in the chain of the report's path. Like the physio service at the end of the day is a function provided by people employed by this hospital and managed and overseen by me as the clinical manager so you can't cut me out of that discussion."* (RM 3b, permanent, medical doctor, HF 3)
>
> *"So I'm still figuring out how the hierarchy works …We're employed by the hospital so I've got my clinical manager who I do talk to and who is a mentor and who would help me guide the service and guide me. And I've got my CEO who I am employed to but then I'm also employed in the Department of Health and there is managers but I don't really know how much power they have over me. Like I know they have an influence on my resources and my comm serves and the service I provide but from a managerial role, actually how does it all fit in? It's very confusing."* (RM 3a, permanent, occupational therapist, HF 3)

The internal governance structures within the health facilities were represented in the organogram of each health facility (figure 6.1).

Figure 6.1: A replica of the organogram found in HF 4

In four of the seven health facilities represented, participants were accountable to a clinical manager or chief medical officer (RM 3a, 3b, 5, 6, 7) or the clinical support manager (RM 1).

> *"I report to my direct supervisor who is chief medical officer…He basically just signs leave forms, at the end of the month statistic forms… Well, he is also supposed to sign transport forms…If we have to get transport to go to meetings or to outreach and stuff, then he signs the transport…He's just there as our legal stamp."* (RM 7, community service level, audiologist, HF 9)

However, this was not the case in two health facilities were there was no clinical manager at the time of the interview (RM 4) and where this responsibility had been delegated to a senior member of the broader allied health staff (RM 2). The clinical manager or chief medical officer would then report to the chief executive officer of the health facility. Guidance on how to plan, organise and deliver rehabilitation services was often received from the external governance structures while the internal governance structures served to address incidents, approve leave and transport requests, and sometimes review service provision statistics.

Rehabilitation Policies in Implementation

In all health facilities, the participants were viewed and accepted as the managers of the rehabilitation services, despite not being formally employed as such, and thus were ultimately responsible for all issues related to the planning, organising and delivery of rehabilitation services. This role of managing the rehabilitation service involved setting priorities for the service as well as implementing national and provincial policies and guidance related to rehabilitation services.

Regarding matters of policy, most managers that were interviewed had little or no access to policies related to the organisation and delivery of rehabilitation services. The exception were the audiology managers who reported having access to policies related to the issuing of hearing assistive devices. An assistive device policy for the other rehabilitation managers was said to be under development at the time of data collection. Those who reported having access to policies received or heard of them at the regional or provincial meetings.

With regards to the implementation of these available policies, participants reported that implementation was often constrained by limited resources, disillusionment regarding whether change was possible, and lack of support from senior management. In general, policies were perceived as constraining to the overall goals of the service. The two quotes below highlight how limited resources and disillusionment affected policy implementation:

> *"It's not always easy because those policies are just looking at all hospitals whether district or regional, so some of the… sometimes you look and see that you are limited because whether it's the environment or it's the equipment that you cannot achieve some of the goals that you should have achieved… So even with the hearing aids, I have a limited stock so the cut doesn't cover the whole of my patients. Even with the new policy that came out, -that we're supposed to fit two hearing aids for kiddies and one hearing aid for an adult- but when I look at the stock that we get, if I were to fit continuously two for kiddies, I would run out of stock very soon, whereas other hospitals wouldn't. So it's not on the same par.* (RM 3c, Permanent, audiologist, HF 3)
>
> *"We haven't implemented them. We haven't because now you have to come back to us as the rehab unit. So they send these policies and you find that I am the only one who reads it and then you call in a meeting and then you say there is this policy and we have to talk about it, and people are like, "Nothing is going to change". We've been getting policies, we've been to these meetings, we've discussed these things. What's the point?"."* (RM 2, permanent, occupational therapist, HF 2)

There was also a sense amongst some participants that the available policies were not sensitive to a rural context. Yet, even in the absence of a strong policy and implementation environment, participants still recognised the need to sustain the service and set priorities in order to meet population needs.

> *"There is not… it's very much not policy led or provincial led. It's more about individuals… And I'm sure there is policies and there's very much, "We should do this" or "This needs to happen", but I do find those also quite constricting so I'd rather speak to people who have learnt how to work in the system and provide a good service than actually being constricted by the policies that's created.* (RM 3a, permanent, occupational therapist, HF 3)

As a result, participants found various ways of making decisions related to what the priority areas of the service should be, and these differed across health facilities. It appeared that the question was not whether rehabilitation managers implemented the policies, but rather how they interpreted them relative to their own contexts and resources for implementation. In two health facilities, participants reported that it was a consultative process amongst the rehabilitation team, and that this was informed by courses that participants had attended (RM6) as evidenced by the two quotes below.

> *"Uhm, I think that it's actually the entire department. Whenever there's something that needs to be done, we discuss because we all have comm serves, I have a comm serve. Yeah, so we discussed with them what needs to happen."* (RM 1, permanent, occupational therapist, HF 1)
>
> *So, we used to have meetings every Monday, where we would discuss maybe upcoming things that we wanted to do or what the biggest problems we were having either between the three of us or within the department. And with the CP group, we had done the course, (Speech therapist) and I had done our courses and (Physio) was planning to do a CP course, and we felt like we needed to have a better way of treating these patients because it kind of felt like we got to a certain point and we didn't know what to do with them. So then we sat down and were like, "Okay, we need to start a group" because the workload and time management was getting a bit too much so we sat together and we planned what we would do and how we would start it. (RM 6, community service level, occupational therapist, HF 7)*

In one health facility, participants had more autonomy and had the responsibility of designing the service components and setting its priorities according to the catchment population needs (RM 3a). Indeed, this was confirmed by the health facility's clinical manager (RM 3b).

> *"We've had great therapists over the years and I've largely taken the approach that the best person to design the therapy service is a therapist, not a doctor. And also I hate micro-managing anyone. So I've tended to have philosophical discussions and have people take it from there so I've had lots of those over the years."* (RM 3b, permanent, medical doctor, HF 3)

However, the participation experience of participants in priority setting for service provision was not the same in other health facilities. One participant lamented that it was the senior management officials who determined the priority areas of the rehabilitation service while another participant reported not knowing who was responsible for setting these priorities. The implication of the limited participation of rehabilitation managers in priority setting was revealed by one participant who reported that when starting up the department, the final equipment delivery excluded important items and that this alteration of the original submitted list had been done without their consultation, thus limiting the scope of rehabilitation services that could be provided.

> *"Management, unfortunately, makes the decisions for us."* (RM 2, permanent, occupational therapist, HF 2)
>
> *"I have no idea who chose…I have a list here of what I should have and that's what I've put on the forms that I need, and they decide."* (RM 7, community service level, audiologist, HF 9)

In summary, findings under the theme of *leadership and governance* revealed that the managers of the rehabilitation services in health facilities were not formally employed as managers but were accepted and functioned as such. Secondly, most of the rehabilitation managers landed in the role unexpectedly, with several managers reporting feeling inadequately prepared for the role. Thirdly, the implementation of policies was constrained by factors related to the policies themselves, resource unavailability, governance tensions, and exclusion from priority setting processes relevant to rehabilitation services at the level of the health facility.

Financing

Lack of Participation in Budgeting Meetings

The area in which the low participation of rehabilitation managers was most reported was in the budget allocation processes at the health facility level. The allocation of resources was often not responsive to the service needs as identified by rehabilitation managers and they who were largely not involved in the health facility level budgeting meetings. Instead, managers relied on simply being told what the rehabilitation service budget for the year would be with little opportunity to appeal or negotiate further.

> *"We would love to be included in budget allocation, you know, because they don't know what we need specifically. So that's what I am referring to because that's our main issue. So they (senior management) meet up and say that we've been given this amount for the financial year. "We are allocating R30 000 to OT. We are not allocating money to physiotherapy.", which is something that happened in 2019. So if we would be included in those meetings we would voice out our needs and then they can make decisions with us and not for us, do you understand?"* (RM 2)

The reasons that were cited for their limited participation in this area were that they did not understand the financing system, they had not been informed of the meetings or that the meetings occurred at times which coincided with clinical care duties.

> *"That was never explained to me. Also I didn't know on my part that I'm meant to be knowledgeable about things such as budget and stuff like that. So that's one of the things that I'm finding out as I go. So I'm starting to get into that now but right now I'm not sure how much was allocated for physiotherapy."* (RM 4, community service level, physiotherapist, HF 4)
>
> *"I never got an invite."* (RM 5, community service level, physiotherapist, HF 6)
>
> *"The meeting is open to everyone if you know the meeting is happening… it's just that there is no schedule. You walk in the hall and you walk into your friend and you're like, "Hey, where are you going?". "Oh, I'm going to the Cost Containment meeting". That's how it happens."* (RM 7, community service level, audiologist, HF 9)

Unpredictable Budgets

There was also a sense that the resource allocation process was unpredictable, with some areas of rehabilitation services not being funded. Particularly unpredictable was the "budget shifting" periods during which time finances that were allocated to a department could be reallocated to another department within the health facility. However, this was often done without prior consultation with the rehabilitation managers.

> *"… now coming to the end of the year I was like, "Okay but wait, I still have my R30 000" and I still want this thing that they ordered now for me. And I was like, "Okay, that's less than R5000. I can buy this piece of equipment from my budget" and all of a sudden they said "No, you were not using your budget" so they reallocated it. So now I had to go through the whole process again to get permission from District to get more money to buy… Apparently within a month, if you don't use your budget they reallocate it."* (RM 7, community service level, audiologist, HF 9)

Even so, the budgeting process in some health facilities was not resistant to being influenced. In one health facility, participants reported advocating for an increase in their health budget by leveraging the records collected in the rehabilitation department and persistently attending meetings where they presented these records. This advocacy led to an increase in the allocated budget by more than double the original amount.

> *"We gave them those stats. We told them our patients wait two to three years to get their wheelchairs. So in the interim there is something we must do. Technically, when patients leave this hospital they are meant to leave with a wheelchair like it's medication. So, with also the DHIS indicators there would be ten wheelchairs required but only two issued so they would use that fraction of why only 20% of wheelchairs were issued and we told them it's because we don't have wheelchairs and we don't have anything temporary in the meantime. So last year, the comm serve and I attended a lot of those meetings and we told them that we need wheelchairs, we need wheelchairs, we need wheelchairs. So even last year we got R30 000 and they added another R30 000 towards the end of the year. Then this year it was R70 000."* (RM 1, permanent, occupational therapist, HF 1)

In summary, the findings under the theme of *financing* were related to the theme of *leadership and management*. Specifically, the findings pointed to low levels of participation by rehabilitation managers in resource allocation processes. Secondly, the budget allocation for rehabilitation services was reported as being unpredictable. Thirdly, despite these challenges, an instance of leveraging routinely collected data resulted in an increased budget allocation for rehabilitation services in the proceeding financial year.

Access to Medical Technologies and Assistive Devices

Procurement Procedures

In each health facility, there was a procurement procedure in place for ordering items such as equipment, consumables and assistive devices, and for requesting maintenance or re-calibration services of clinical equipment. However, the health facility procurement procedure for approving ordered items was reported to be slow and sometimes challenging to navigate.

> *"Hmm, I would like the service to improve in terms of resources, you know. Maybe if the hospital can also meet me halfway like in terms of resources when I order, maybe they try to fasten up the process."* (RM 5, community service level, physiotherapist, HF 6)
>
> *"So for anything that's not on tender, you need to have three quotes and then you submit that and the Department chooses which quote they will go for and then they buy it off there. But it needs to be valid for 60 days, argh, I don't know, there's lots…It takes very long and I've never been able to order something off the Three-Quote system."* (RM 3a, permanent, occupational therapist, RM 3)

Moreover, the types of items which could be ordered through the procurement system was dependant on what was stipulated as line-items in the budget. However, as the rehabilitation mangers interviewed had little involvement in the budgeting process, it presented a challenge in that unless items were stipulated, they could not be ordered, even if there was budget available.

> *"And then they have a budget where they've got items on the list and if your thing is not literally named by name, it's not an item. And I'm yet to figure out how to get a new item on the list."* (RM 3a, permanent, occupational therapist, RM 3)

What seemed to mitigate some of the effects of this was that there were two available resource pools from which managers could order items. The first was the health facility budget in which resources were allocated for the procurement of equipment, consumables and assistive devices. The second was a regional budget which was managed by the regional Orthotics and Prosthetics (O&P) Centre, from which managers from different health facilities within the Eastern Region of the province could procure assistive devices, namely wheelchairs and mobility aids. In particular, one rehabilitation manager from HF 5 reported that procuring items from the O&P Centre was faster than attempting to procure items through the health facility's procurement system.

> *"I'll start with the O&P centre because they are the ones who already gave me the equipment. What is positive on their side is that the process is very quick. Like financial year starts in April, right, so maybe by June or so you already have equipment, or July. So they've already got the stuff so it's very quick on their side. They have the contracts, you know?... Yes, they know already which fastens up the process. Unlike the hospital whereby the physio is new so "Where do we order these things?" and "Where is this even? We don't even know" so it's very slow."* (RM 5, community service level, physiotherapist, HF 6)

However, this was contrasted by the views of other rehabilitation managers who noted that the waiting list of wheelchairs through the O&P centre was between two to three years.

> *"We gave them stats because what happens is that Programme Seven (regional budget) also procures wheelchairs, but the waiting list is so long. So they are trying to buy (wheelchairs) for people who have been waiting for more than three years. So now that we are in 2019, they are trying to buy wheelchairs that were ordered in 2017. So, there is a two to three-year waiting list."* (RM 1, permanent, occupational therapist, HF 1)
>
> *"One to two years."* (RM 2, permanent, occupational therapist, HF 2)

This difference in views may have been related to the fact that RM 5 from HF 6 was referring to mobility aids such as crutches which cost considerably less than wheelchairs. The views of RM 5 may also reflect faster processing times as a result of the health facility (HF 6) being prioritised by the O&P centre because it was re-opening a previously discontinued rehabilitation service.

Assistive devices such as wheelchairs and crutches were not the only items which were required for a well-functioning rehabilitation service. Consumables such as splinting materials, velcro straps and thermabands were reported as necessary items for service provision; however, several managers reported that while resources may have been allocated for mobility assistive devices, no resources had been allocated for consumables. One rehabilitation manager from HF 2 noted that they had never had success in getting a consumables order approved and said the following:

> *"I have never received consumables from Procurement for the three years that I've been here. I have ordered. I could show you forms and you would see that it's stamped, it's been taken (for approval), but then something along the way happened."* (RM 2, permanent, occupational therapist, HF 2)

In order to mitigate the negative effects of not having access to a consumables budget, one rehabilitation manager from HF 3 reported that they conducted fundraising activities to raise additional funds to compensate for this, and that as this facility received regular support from an NGO set up specifically to support HF 3, some consumables were also donated to the rehabilitation department through the NGO.

> *"And then we do a lot out of ourselves that's not expected from a government side. So we would privately fundraise to buy things which is unheard of, and we are fortunate to have an NGO connected that has all the correct documentations that they can donate to us so it's approved. So that helps a lot with getting privately funded or donations or working through NGOs that then donate things, but donate through the NGO that we have in order to access things that's not accessible. So, I think, that is very good and it helps a lot."* (RM 3a, permanent, occupational therapist, HF 3)

Overcoming Constraints

In HF7, resources for consumables had been allocated but only for the occupational therapy service. To mitigate the negative effects of this, the three rehabilitation managers in HF 7 reported that during their submission for the rehabilitation department needs, they opted to not differentiate between the physiotherapy and occupational therapy service needs. In this way, they were able to negotiate for a consumables budget which on paper was for occupational therapy but in practice served the entire rehabilitation department.

> *"So even though the budget says OT consumables, we use that budget for both OT and physio."* (RM 6, community service, physiotherapist, HF 7)
>
> *"Because we said to them at the beginning of the year we need for physio and they said it's under one name which is "occupational therapy consumable" and that they couldn't give more budget to more things so we just decided that it has a name but it means nothing because we're both ordering from it."* (RM 6, community service, occupational therapist, HF 7)

The effects of a limited or lack of a budget was particularly acute amongst the audiology and speech and language therapy managers. In HF 7, the speech and language therapy manager had not been allocated any resources for the financial year. This meant that none of the communication assistive devices which were stipulated in the assistive device policy were being procured or provided to patients. Instead, this rehabilitation manager focused their efforts on screening for communication disorders and hand-making adapted items which patients could use to facilitate communication.

> *"So I went through a policy of issuing Speech assistive devices and with them (larger hospitals) they have stock already of these assistive devices at the hospitals so it's just when to give out these assistive devices and things like that. Because we don't already have them, I wouldn't do that, I wouldn't issue them…I make the communication board…all I use is paper."* (RM 6, community service, speech and language therapist, HF 7)

Interestingly, hearing aids fall into the category of consumables; however, audiology managers were able to access a regional budget for hearing aids which was managed by the regional referring hospital. This meant that they had hearing aids which would be procured by the regional hospital and issued to the health facilities. However, even this was not always adequate to meet the needs of the population in the catchment area. One manager at HF 3 reported that if they were to fully adhere to the policy for issuing hearing assistive devices with the available stock, they would run out of hearing aids.

> *We have a central budget (regional budget), it's called Programme Seven, so a huge chunk of money is given to one hospital of which it has to provide for the smaller hospitals like ourselves…Then they have to buy for everyone…So even with the hearing aids, I have a limited stock so the cut doesn't cover the whole of my patients. Even with the new policy that came out, that we're supposed to fit two hearing aids for kiddies and one hearing aid for an adult. But when I look at the stock that we get, if I were to fit continuously two for kiddies, I would run out of stock very soon, whereas other hospitals wouldn't. So it's not on the same par."* (RM 3c, permanent, audiologist, HF 3)

The rehabilitation managers also noted the close links between resources and service delivery. When resources such as equipment, consumables and assistive devices were available, this meant that the aspects of the service which required these items could continue. However, an absence of these resources meant that there were components of the service which could not be carried out. One rehabilitation manager expressed this link between consumables, assistive devices and service delivery saying:

> *"So now we need a lot of things: we need splints, we need wheelchairs for the hospital because the wheelchairs that we have are prescription wheelchairs in the sense that patients are on a waiting list and we order wheelchairs based on the patients' needs. So we need wheelchairs because now we are discharging patients without wheelchairs because we cannot give them the stock that we have here because it's for people who are waiting for them who are on the waiting list."* (RM 2, permanent, occupational therapist, HF 2)

In summary, there were strong connections between *financing* and access to *medical technologies and devices*. The impact of the unpredictable nature of the allocation of budget at the level of the health facility was directly related to what assistive devices could be procured and provided through the health facility. Findings under this theme emphasised the severe constraints experienced by rehabilitation managers in attempting to procure assistive devices and consumables for service provision. Secondly, a few rehabilitation managers overcame these constraints in procurement processes by conducting additional fundraising activities and leveraging the bureaucratic process to fit the rehabilitation department's needs. Thirdly, there was strong awareness that availability of assistive devices and consumables directly impacted the rehabilitation managers' capacity to deliver rehabilitation services.

Service Delivery and Rehabilitation Workforce

Infrastructure

In addition to equipment, consumables and assistive devices, the ability of health facilities to deliver rehabilitation services also required the appropriate infrastructure within which services could be provided. The rehabilitation departments in HFs 6 and 3 were reported to be too small and therefore created limitations in how the rehabilitation service functioned. The following quotes detail the challenges to service delivery regarding the available infrastructure:

> *"If we can have a big space. As you can see, this is one room, so everything is here, you see. If the infrastructure can improve then we can have a good space, like a big space. For example, now, if we can have the parallel bars where are we going to put them because we don't have space. Yes, we want the parallel bars, we can order them maybe and get them but where are we going to put them?"* (RM 5, community service, physiotherapist, HF 6)
>
> *"We need a space…Look at this place, it's too small: two people, two departments. It's supposed to be just one testing room and then we have a separate office. Because how we operate now, if I have a patient, she has to wait. If she has a patient, I must wait."* (RM 3c, permanent, audiologist, HF 3)

In HF 9, upon arrival on the first day of work, a workspace had not been provided for the audiology service, so the rehabilitation manager cleared out an office which was being used as a storeroom and converted it into a treatment area.

> *"I was the only one left who didn't have a space. And I looked at her (person conducting orientation activities) and she looked at me and she's like, "You don't have an office, honey"… and the physio said, "Listen, there is a room next door. It's like full of stuff but we can clear it" and that's how my office was a storage unit. We did so much of cleaning and throwing out old things and organising and that's how eventually I got my office. But I still didn't have any equipment, anything to work with. I didn't even have a pen."* (RM 7, community service, audiologist, HF 9)

While one participant was happy with the size of the rehabilitation department, they were concerned about the inability of the door to lock meaning that someone could unexpectedly enter the consultation area during a session with a patient. The entire hospital was said to be in disrepair. Despite repeated requests to have a lock put on the door, no progress was made to address the concerns.

> *"There is a door, but someone could walk in. As you saw, our door doesn't even lock from the inside so I feel like, how am I going to put this, I feel like there needs to be changes in terms of the space that I work in but that's an issue of infrastructure which is related to the entire hospital being renovated…The people… just respond quite late so I think the door issue should have been fixed already."* (RM 4, community service, physiotherapist, HF 4)

Similarly, the rehabilitation managers from HF 7 reported that the lack of a lock on the door of the department meant that the rehabilitation department was often used as a storage space for items of other health facility departments leading to a cluttered treatment space. Within the same facility, they reported an uninhibited thoroughfare through the rehabilitation department treatment area to another department of the health facility. This often led to distractions during

patient consultations. Requests for a lock and a re-routing of the pathway to the adjacent department were met with little success.

> *"Uhm, the other thing is, and it seems silly, just making sure that… like we've been trying to get locks on our doors. Being able to corner off this rehab section so that it remains rehab and it doesn't become like what we arrived to this year where all of our resources were all dusty and dirty and our place was being used as a storeroom. So that the hospital know that this is rehab, it's not the storeroom"* (RM 6, community service, occupational therapist, HF 7)

Rehabilitation Service Coverage: Catchment area

Despite the limited space in a few health facilities, rehabilitation service delivery continued in all health facilities. Some health facilities also provided outreach services to clinics or community health centres within the catchment area of each health facility. The aim of providing outreach services was to extend coverage to as large a proportion of the catchment population as possible. In particular, as the health facilities (figure 2) served rural populations who often lived far away from the health facility, this extension of the service aimed to bring the service closer to the relevant population. Rehabilitation managers from HFs 1, 3, 7 and 9 all reported providing outreach rehabilitation services to their respective clinics and community health centres (CHCs) with some of them also providing rehabilitation services through home visits (figure 3).

Figure 2: Map of distribution of Health Facilities

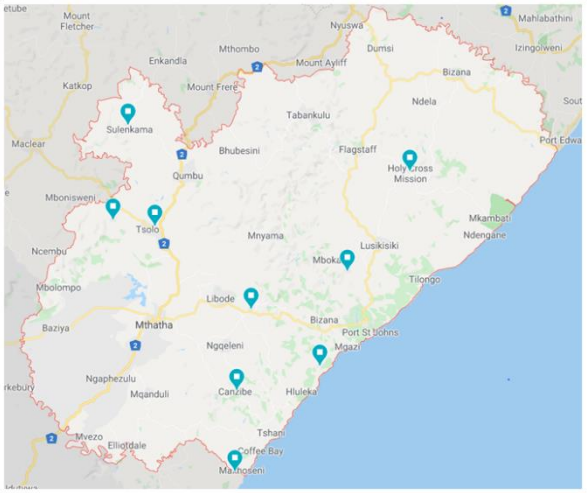
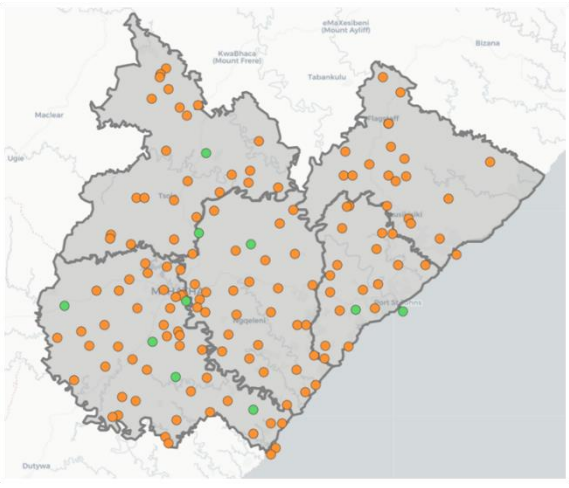


Figure 3: Map of clinics (orange) and CHCs (green)



However, there were differences in the extent to which coverage in the relevant catchment areas was increased through outreach services. For example, a rehabilitation manager from HF 3 reported covering six clinics for occupational therapy and physiotherapy, while HF 7 covered one clinic for occupational therapy.

> *"So we've got six clinics. So we go to the clinics. Most of them we go once a month for a rehab day and every second month we go for a CP (cerebral palsy) group day. And then there is just one clinic that we go every second month for rehab."* (RM 3a, permanent, occupational therapist, HF 3)
>
> *"There's 11 (clinics in the catchment area) …I go to (name of one clinic) once a month."* (RM 6, community service level, occupational therapist, HF 7)

The rehabilitation manager in HF 9 reported that outreach services for audiology, physiotherapy and occupational therapy were provided at the three closes clinics while for HF 3, it was at the clinics which were the largest or easiest to access for the most rural patients.

> *"These are the three closest ones to the hospital."* (RM 7, community service level, audiologist, HF 9)
>
> *"And we've also kind of structure it that, because we're very rural our catchment is really big, and there is less rural clinics that's more towards the tar roads and then there is very rural, deep rural clinics that's actually really difficult to access the hospital. And we've tried to allocate our services at the most accessible places for the different patients- those are the bigger clinics-that we've kind of spread it out more."* (RM 3a, permanent, occupational therapy, HF 3)

Transportation to Conduct Outreach Services

Even with these differences in coverage of services through outreach, a common challenge was accessing transport to travel to these outreach clinics. While each health facility had vehicles, these were shared with other departments within the health facility. What further constrained the availability of vehicles in some facilities was that because of medico-legal claims so prevalent in the public health sector in South Africa, vehicles needed to be repossessed, thus reducing the available

fleet of vehicles while the demand for services remained the same. All of this meant that while transport could be requested for an outreach day, it could not be guaranteed.

> *"We don't have enough vehicles. I don't know if I may say this or not but it got repossessed by the sheriff…Because of medico-legal cases." (RM 7, community service level, audiologist, HF 9)*
>
> *"We only have two cars. I think there were four cars but it was taken away in a law dispute with the hospital so we now have two. And a lot of the time, Admin (administration department) is prioritised above any other service because… all of our stuff is paper-based and it comes from either Mthatha, Bhisho or East London."* (RM 6, community service level, occupational therapist, HF 7)

Availability of Rehabilitation Providers

Amongst those rehabilitation providers who reported not conducting outreach services, HF 4 and 6, the key reason was that they were the only rehabilitation provider. This implied that outreach service provision to the relevant catchment area was also a function of the available rehabilitation providers in the health facility. Providing outreach services would mean shutting down the health facility provided rehabilitation service for those days.

> *"The problem is, no there are no other ways. They have to come to the hospital, reason being I can't do the outreach because that would mean if I go to the nearest clinic, we are going to close the hospital (physiotherapy department). So people who are here won't be able to be seen because I'm the only one, you know what I'm saying?"* (RM 5, community service, physiotherapist, HF 6)

It was not only the current availability of rehabilitation providers that concerned the managers, but also the future availability of rehabilitation providers. Rehabilitation managers expressed uncertainty with regards to the sustainability of the workforce and the service. This was because there was no predictability in the continuation of the rehabilitation service. Participants cited examples of how in various periods at their health facilities, there had been a discontinuation of the rehabilitation service due to a lack of rehabilitation providers, and these periods of

discontinuation had lasted periods of two to three years. One rehabilitation manager from HF 3 reflected on the need to create a service that would survive shocks to the rehabilitation workforce saying:

> *"What I've just learnt is that, and that's what we're trying to do here, is to create a service that's not determined on the amount of comm serves we get. To be still functional, not to be dysfunctional when you don't. Yes our service has been made smaller but we still running a good service and if we get comm serves it means we're just able to do more and expand but if we don't get the year after that, it means we're not going to now fall apart and there's going to be no rehab services." (RM 3a, permanent, occupational therapist, HF 3).*

The audiology rehabilitation manager from HF 9 reported being unsure of whether the service would continue once they left the health facility since they had been the first audiologist the health facility had ever employed. At the time of data collection, there had not yet been any communication of a new audiologist filling their position. The differences between the perspectives of the managers in HFs 3 and 9 may have been related to the fact that HF 3 had a highly established rehabilitation service with experienced managers spanning 3 years in the rehabilitation department and 15 years of having oversight of the rehabilitation department. In contrast, HF 9 had never had an audiologist previously as evidenced by the absence of a workspace being available upon their arrival.

Internal Referral Processes

Amongst all the rehabilitation providers interviewed, there was a sense that the extent to which the relevant catchment population was covered was inadequate and that there remained gaps in ensuring rehabilitation services were being accessed by those requiring them. Interestingly, these gaps were seen both inside and beyond the health facility. Inside the health facility, respondents commonly raised concerns about the limited referral of patients by healthcare workers within the same health facility, compromising the ability of those requiring rehabilitation services to receive them. An interesting theory offered by rehabilitation providers in HFs 1 and 2 for why referral was such a challenge was that the undergraduate training of medical doctors at the local university did not expose them to rehabilitation trainees since the university does not train any of the types of rehabilitation providers employed in the included health facilities. Another reason offered was that healthcare providers overall did not understand the role and scope of rehabilitation providers, with some respondents even commenting that there was confusion in distinguishing between physiotherapy and occupational therapy.

> *"We look at the doctors and where they come from. WSU doesn't have a multidisciplinary exposure…In terms of their health campus. Whereas if you look at the doctor who came from maybe UKZN, UCT, or Stellenbosch or Wits they will know that "there is Speech and I need to go to Speech", "I need refer to dieticians", "I need to refer to O&P", "I need to refer to OT". They know about their allied health professionals."* (RM 1, permanent, occupational therapist, HF 1)
>
> *"It's because the doctors do not really understand our role. Because of our discussion earlier, most of our doctors are from Walter Sisulu University so they don't really understand what the role of OT is. They mostly understand physio. So, even with physio, they are not even sure about that. So they are not referring because they don't understand our services."* (RM 2, permanent, occupational therapist, HF 2)

In order to address these challenges related to referral processes, the rehabilitation managers reported providing presentations in meetings with the rest of the healthcare team, creating referral slips to be used in the referral process, and making use of messaging applications such as WhatsApp to share and request patient referrals.

> *"Last year our clinical manager initiated these meetings on Thursdays where it was a professional development meeting where he would select prominent cases, cases that we usually see at the hospital, CVAs and all that. And then what is the role of a doctor here. So an OT would present on a specific day and all that. So we had one day, only one day in 2018 where we got to discuss the role of OT in CVA but…we discussed burns and all that. We even gave them pamphlets and you saw our referral system for OT? I gave them specifically what I need from them. They have pamphlets in each and every ward of the referrals they need to send to OT but still…"* (RM 2, permanent, occupational therapist, HF 2)

When their efforts seemed futile, one rehabilitation manager in HF 7 reported going to each patient in the ward and screening them for rehabilitation needs. However, this proved to be a time-consuming exercise.

> *"But I think our approach has changed in that we know we're not going to get many referrals from our doctors currently so I make a point of going into the ward…So sometimes when I get a chance to go to the ward I go inside the ward at each patient's bed. So going around sometimes, it will waste time and still I have to do admin so I think that referral challenge between doctors and us is still a bit of an issue."* (RM 6, community service, physiotherapist, HF 7)

Language Barriers

Another challenge was the rehabilitation providers' inability to speak the local language. The language barrier prevented effective coverage of services within the health facility for patients presenting for rehabilitation services. Two rehabilitation managers from HFs 3 and 7, reported employing translators to help overcome the language barrier because one of the three rehabilitation managers (in HF 3) and two of the three rehabilitation managers (in HF 7) could not speak isiXhosa, the local language. These translators were paid directly in HF 7 and indirectly in HF 3 by the participants themselves rather than being employees of the health facility. Even so, the translators were considered extensions of the rehabilitation team.

> *"I think our translators are amazing and that's been… I think it's one of our biggest assets. Three of our translators has been long term so they are physio and OT assistants basically…if I need a second opinion on a patient who I think might have intellectual impairment but I'm not sure, and especially for me not speaking first language Xhosa, that's been really useful and I think it's one of our biggest assets…they're also employed by (one of the NGOs)."* (RM 3a, permanent, occupational therapist, HF 3)
>
> *"In the beginning of the year we struggled quite a bit and we decided to hire a translator and we thought it would be best to get somebody who is familiar with the hospital and familiar with some of the patients."* (RM 6, community service level, speech and language therapist, HF 7)

However, in HF 9, there were no translators employed. Therefore, anyone who happened to be within distance would be called upon to translate.

> *"It is a barrier, definitely. I try to use gestures, explaining, like I would do for a kid, that's kind of embarrassing, but sometimes the patients still don't understand. So then I would say to the patient, "Listen, I'll be two seconds. Just wait" and I would run in the hall and anyone I see will be my victim, and be like, "Listen, come translate for me please?". Sometimes it's a cleaner, sometimes it's a nurse, or it's an admin lady."* (RM 7, community service level, audiologist, HF 9)

While being able to communicate with patients in their own language is both important and is recognised as a right, the presence of language barriers is markedly more pronounced in the speech and hearing professions. This is because communication is integral in the assessment, treatment and health outcomes of patients. This represents an important factor in implementing rehabilitation policy mandates with regards to service delivery.

Findings within the themes of service delivery and rehabilitation workforce revealed the intertwined nature of these two themes since the workforce are the agents of service delivery. The implementation of rehabilitation policy mandates was constrained by firstly, the infrastructure in a few health facilities resulting in limitations in whether and how aspects of the service could be conducted. Secondly, the coverage of rehabilitation services in the surrounding catchment areas was constrained by the lack of available transport on a regular basis to travel to the clinics and

community health centres. Thirdly, the current and anticipated limited availability of rehabilitation providers in the health facilities meant that there were fewer individuals to conduct service delivery within and beyond the health facility as expected by policy mandates. Relatedly, poor referral processes within health facilities resulted in constrained rehabilitation service coverage even within the health facility. Fourthly, where there were no translators, the language barriers hindered rehabilitation service delivery.

Health Information Systems

Workforce Planning Tools

Considering that the anticipated turnover was high amongst rehabilitation providers, with most of them expressing intentions to leave their health facilities after their year of work, the use of health information systems for workforce planning arguably should be of particular importance. However, of all the rehabilitation managers interviewed in OR Tambo district, none of them were aware of any tools or methods that the health facility or the provincial Department of Health used in determining the numbers of rehabilitation providers to expect in each health facility. They noted that it was the Eastern Cape Provincial Department of Health that had the responsibility of placing newly graduated rehabilitation providers in health facilities and that the health facility had no influence in this decision. While the health facility did have a role in advocating for permanent rehabilitation provider posts, this would still need to be approved by and funded by the Eastern Cape Provincial Department of Health. Despite the rehabilitation manager from HF 3 working in the health facility with the largest and most established rehabilitation department, they reported that rehabilitation workforce planning was an enigma.

> "*So the department of health doesn't have a lot of say about how big your permanent staff is so that's very much hospital orientated and hospitals should motivate for permanent staff. Yes, the Department of Health signs it off and they can not approve it, but permanent staff- this is how I understand it- is out of the hospital's budget that motivates for posts. And there's not really an allocation system to that... where I think the Department of Health has the biggest influence in the number of staff is with the comm serve allocations, and it's very sporadic. Now you get two, next year you get none, now this hospital has no therapists, now suddenly they have comm serves for the first time in how many years.*" (RM 3a, permanent, occupational therapist, HF 3)

Routine Data Collection

The service provision information that was collected at the level of the health facility was linked to the District Health Information System (DHIS). The two DHIS indicators routinely collected for rehabilitation services were wheelchairs issued (or required but not yet issued) and hearing aids issued. However, some respondents reflected that these two indicators were an inadequate representation of what rehabilitation services actually offered.

> "*The other thing is that wheelchairs are so few and far in between than the other things that we do; a wheelchair is merely a tool for the patient. It's not the biggest part of rehab. And that is what we are based on…So including more detail rather than "did they need a wheelchair or not". Including their diagnosis, their age, an assistive device that they need and then also being able to explain more. So if they did need an assistive device, was it maybe a washing board or a splint. There is nowhere that splints are mentioned where splints are so functional and needed for so many different patients.*" (RM 6, community service, occupational therapist, HF 7)

All rehabilitation providers interviewed also reported submitting monthly rehabilitation service-related reports to their respective provincial representatives. This information contained numbers of patients seen, where the service was provided (at the health facility or as outreach services), and assistive devices issued. These reports were signed off by the clinical manager or chief medical officer prior to being submitted to the Eastern Cape provincial representatives. However, there was uncertainty amongst most respondents about whether the data in the reports were actually used at the level of the health facility, and whether collecting the data practically informed rehabilitation service provision. A clinical manager from HF 3 expressed this uncertainty saying:

> *"I guess part of what makes me sceptical is that I don't know what they do with these numbers. I mean that's my criticism of reports in general. Hopefully they are helping inform somebody at a provincial or even district level as to how the therapy (rehabilitation) service is functioning at provincial or district level but numbers in state tend to go down one-way roads…It's frustrating to feed numbers back and feel that they're a one-way street. So you say there are 100 people needing a wheelchair who are on a waiting list and then next month, it's 110 and then it's 115 and then "woah, then we got 10 wheelchairs". Does anyone care? I mean, there are people who care and maybe they're trying to do something about it but that's where I think numbers get risky. They're just things you collect."* (RM 3b, permanent, medical doctor, HF 3)

Despite the uncertainty regarding the use of the data, the same clinical manager from HF 3 actively engaged with the rehabilitation service reports that were submitted by the rehabilitation managers. One rehabilitation manager from HF 3 reported that after identifying a discrepancy relevant to prior trends in the report, the clinical manager initiated a conversation to inquire about this.

> *"And they (clinical manager) actually picked up one of them (rehabilitation service reports) and they asked us questions about it. And we could explain what happened that month but the fact that they actually read it and looks at it means it's their way of checking."* (RM 3a, permanent, occupational therapist, HF 3)

However, this was not the practice in other health facilities. Participants themselves had little engagement with the data to inform how they planned, organised and delivered rehabilitation services in their respective health facilities. Even in HF 3, the rehabilitation manager identified gaps in their own skills related to analysing and interpreting data for informing improvements in the service.

> *"Since I got here there hasn't been anyone who's asked for my stats (routinely collected data) but every month, I show my CEO because he has to sign them before I send them over to (name of another hospital)."* (RM 4, community service, physiotherapist, HF 4)
>
> *"So we've got all the stats (routinely collected data) available, but it's just learning how to use them…So that's definitely something I need to work on. I do think I need to be better at or have more skills at knowing what to analyse and what to do with the information I have."* (RM 3a, permanent, occupational therapist, HF 3)

Data for Service Monitoring

When asked about the extent to which the information collected informed how the service was meeting its goals and relevant policy mandates, there were conflicting views. Some rehabilitation managers reported using the numbers of patients seen as an indicator of performance, with higher numbers indicating a well performing service. One rehabilitation manager explained this saying:

> *"I suppose it's the numbers. Sometimes you use numbers to measure…the number of patients that you see or the number of patients that return, versus the number of patient that we've seen previously. So we don't have a very, very special tool to say that, based on this and that we are doing good. So we just try to do what we know how to, but we try to do it better."* (RM 3c, permanent, audiologist, HF 3)

Others were unsure about how to go about evaluating the rehabilitation service and relied on individual patient's clinical outcomes or expressions of gratitude.

> *"For me, it's when we see improvement in functioning. When we see that when you came here and you were flaccid or you couldn't walk, and you are walking after six months or a year, then we can see that we've improved. So I think we do that based on what we can see, the outcome of rehab."* (RM 2, permanent, occupational therapist, HF 2)

One rehabilitation manager from HF 4 made use of a "compliments, complaints and suggestions" box outside the rehabilitation department.

> *"I actually have no way of measuring myself besides- we have a box outside and I always encourage my patients to "Comment, Compliment or Complain" and I haven't had any negative reports for now."* (RM 4, community service, physiotherapist, HF 4)

Contrastingly, participants from HFs 1, 4 and 6 reported making use of the National Core Standards to report on how well the service was performing and that this was submitted to the Quality Assurance Officer in the health facility. They explained the content of these services assessments by saying:

> *"Basically, what you do in those forms, maybe they will ask you, "Do you have a goniometer?", "Do you have a plinth?", "Do you have ultrasound?", then you will tick. And then at the end, maybe it's out of ten, if you only got two ticks then you are going to say 2/10, something like that. And then you submit (to Quality Assurance Officer). And then I think that's how they check if it's improving."* (RM 5, community service, physiotherapist, HF 6)
>
> *"I think it's a comprehensive assessment because it looks at all the areas like how you write in your files, has your patient been seen by a doctor, has he been seen by a nurse, do you have a poster that says your operating hours, do you have policies like referral policies, those kinds of things. It also looks at protocols that you have in place like for infection control, where do you put your gloves or your masks, just general waste."* (RM 1, permanent, occupational therapist, HF 1)

In summary, findings under the theme of *health information systems* pointed to data as an important contributor to the implementation gaps in the rehabilitation service capacity and the rehabilitation workforce. Firstly, workforce planning tools for rehabilitation services were said to be unheard of. This does not mean that they were not available; however, the lack of awareness of whether the tools were available still represent a hinderance to the planning and organisation of the rehabilitation service from the perspectives of the rehabilitation managers. Secondly, the routinely collected service provision data was considered to be an inadequate representation of the rehabilitation service provided. Thirdly, it was unclear whether and how data was used to inform improvements in the planning, organisation and delivery of rehabilitation services in the health facilities.

6.3.2 Systems Software

Relationships and Power

The areas where the rehabilitation managers interviewed in OR Tambo district perceived themselves to have limited or no power to act to achieve policy imperatives were in the areas of *leadership and governance*, and *financing* in health facilities. In all health facilities, the participants were the managers of rehabilitation services in their respective health facilities, however they were officially employed as Production Level rehabilitation providers. In other words, they were primarily

employed as clinicians rather than in Chief posts such as “Chief Occupational Therapist”. In practice, this meant that while the rehabilitation managers had to fulfil all the expectations associated with being a manager, they did not really have power to make important decisions related to the planning, organising and delivery of rehabilitation services. What further compounded this perceived lack of power or agency was how unprepared to manage they felt, especially because they had not chosen the role for themselves. Moreover, rehabilitation managers often did not participate in health facility level resource allocation discussions and decisions, resulting in budget allocations which were not responsive to the rehabilitation needs of the catchment area. This contributed to the rehabilitation managers’ reduced ability to act to organise and deliver rehabilitation services in accordance with the relevant policies.

Ideas and Interests

Interestingly, the perceived lack of power that the rehabilitation managers felt in the areas of *leadership and governance*, and *financing* led to innovative ideas in the areas of *access to medical technologies* and *rehabilitation service delivery*. One rehabilitation manager from HF 3 reported conducting fundraising activities in order to compensate for the lack of a consumables budget. While in HF 2, one rehabilitation manager leveraged the DHIS wheelchair records to advocate for additional health facility funding for wheelchairs in the proceeding financial year.

Regarding service delivery and expanding coverage, one rehabilitation manager from HF 7 reported providing speech and language therapy outreach services to two nearby district hospitals (HF 2 and 5) which did not offer speech and language therapy services. This was unusual as outreach services were usually conducted at clinics and community health centres.

> *"I do outreach at HF 2 and HF 5. So I don't have as big of a case load as the two of them (occupational therapist and physiotherapist). So when I looked at it, I spent not as much time as I'd like with patients so I got to a point where I felt I wasn't learning enough and I was just sitting in the office. I needed to find a way to get more work and to get more learning opportunities. So when I look at my numbers, my numbers have improved since starting outreach (to HF 2 and HF 5) and also I've still managed to see all the patients that I have been seeing and I have time for all of the things."* (RM 6, community service level, speech and language therapist, HF 7)

The reasons why ideas and innovation were sparked in these areas in particular rather than other areas may be related to the fact that the areas of *access to medical technologies* and *service delivery* more readily aligned with the clinical training of the rehabilitation managers, and thus they have more experience in enacting roles with reference to these areas.

Values and Norms

Considering the constraints, one rehabilitation manager from HF 9 noted the need to have to draw from internal personal resources to overcome them. In particular, they felt that one needed to be a "strong hearted person" rather than "faint-hearted" (RM 7, community service level, audiologist, HF 9). Indeed, many of the rehabilitation managers expressed having values which anchored their practice. These values were mostly personal although there were some which were institutional. The values were treating everyone like family, including the patient, and aiming to "leave a good mark on something" (RM1, permanent, occupational therapist, HF 1). Similarly, another rehabilitation manager from HF 6 said it helped them to remember that every patient could have been their mom, and thus was worthy of being treated well (RM5, community service level, physiotherapist, HF 6). This quote encapsulates these ideas:

> *"Treat everyone like your family even sometimes when it comes to your patient. Don't treat patients like just any person, a stranger. Treat them how you want your family to be treated if they are in a hospital."* (RM1, permanent, physiotherapist, HF 1)

A rehabilitation manager from HF 2 expressed that it was important to make an impact in the lives of patients (RM2, permanent, occupational therapist, HF 2). Similarly, the rehabilitation manager from HF 4 expressed that it was important to "make a difference no matter how small" and despite the lack of resources (RM4, community service level, physiotherapist, HF 4). The rehabilitation managers from HF 7 expressed that they valued patient-centred care complemented by hard work and compassion (RM6, community service level, physiotherapist, occupational therapist and speech and language therapist, HF 7).

Two rehabilitation managers from HF 3 mentioned institutional values that were communicated throughout the whole health facility. These institutional values were "to provide quality care and to provide gold standard care in a rural setting" despite the limited resources (RM 3a, permanent, occupational therapist, HF 3 and RM3c, permanent, audiologist, HF 3).

> *For us, well we have it (mission) written… it's to provide quality care and to provide gold standard care in a rural setting. It doesn't mean that, "We're rural so we get a half-hearted service*". (RM3a, permanent, occupational therapist, HF 3)

The institutional values in HF 3 seemed to enable an establishment of norms in a way that did not happen in other health facilities in OR Tambo district. Therefore, it seemed that values were expressed in practice as norms. Teamwork, and in particular inter-disciplinary teamwork, seemed to be an important aspect of enacting what "quality service" looked like. Below is an expression of this ethos:

"We would like to be providing the best of the service that we can to our patients, given the resources in the environment that we're in. So that's mostly our vision. To be continuing our learning as we progress- that continuous learning. We have to have that integrity among ourselves, to have that care for the patients, to put patients first and then we have to have teamwork, not to have one person dominating. So we try to work as a team so that we drive the department. Mostly it's about the patients and the teamwork, and then the respect amongst us." (RM3c, permanent, audiologist, HF 3)

I think a big part of our journey has been trying to see ourselves as a team. One of the ideas that we're really passionate about is the idea of the multi-disciplinary, better still, the interdisciplinary team. So a multi-disciplinary team is, "We've got a patient who needs a whole lot of services" and we pass the patient around and they get my doctor skills and your physio skills and somebody else's pharmacy skills. But an interdisciplinary team is putting the patient in the middle and kind of gathering around them either physically or metaphorically, and saying, "How can we bring our insights and skills to bear on this patient's context and need and medical issues they have, and to best optimise their outcomes?". So I think learning that teams deliver better healthcare is still catching up in our health system but actually it is a better way of delivering healthcare. (RM3b, permanent, medical doctor, HF 3)

6.4 Discussion

The findings from interviews with managers of rehabilitation services in health facilities in OR Tambo suggest that the gap between rehabilitation policies and their implementation may be explained by a lack of the systems hardware which is necessary for the provision of rehabilitation services. This lack of systems hardware also co-existed alongside software which may be either adaptive and in line with policy aspirations, or maladaptive and not aligned with policy aspirations.

The mechanisms by which a lack of systems hardware and maladaptive software contributes to the implementation gap was through the limited financial resources for assistive technologies and equipment, limited transport and staff for outreach, and unclear use of records to inform planning. A lack of these systems hardware for rehabilitation services at the health facility level directly influenced the availability of components of the service. For example, a limited budget constrained the assistive devices which could be available at the health facility. In health facilities which did provide outreach services, a limited supply of health facility transport directly affected service coverage to clinics, and in health facilities that did not provide outreach, limited rehabilitation staff members prevented service coverage to clinics. The limitations of the infrastructure provided potential barriers to patients for accessing rehabilitation services. Lastly, while all health facilities submitted service records to the provincial forum, there was no reported evidence that changes were being instituted at the health facility level in response to the information generated by the service records.

Moreover, there was maladaptive software which was present across the health facilities which prevented rehabilitation policies being fully implemented. The distinction that I am making between adaptive and maladaptive software is to emphasise that systems software is always present in systems but that it may either support (adaptive) or constrain (maladaptive) the implementation of policies as observed in the available rehabilitation service capacity. The maladaptive software in this study was the limited power of the rehabilitation managers. While the

managers did have some power, it was not being exercised in a way which enabled the full implementation of policies at the health facility level. While there were examples of adaptive software, that is software which supports the implementation of policies, these examples arose in response to constraints in the hardware inside the health facility or across health facilities. For example, the rehabilitation managers who reported fundraising through the local NGO did so because there was no budget allocated at the health facility to procure consumables. Another example is that the participants who reported advocating for an increase in budget for wheelchairs did so because their wheelchair needs according to the waiting list were not being addressed. Lastly, the participant who provided outreach to other district hospitals instead of clinics, did so because those two district hospitals did not have speech and language therapy providers. In each of these examples, the managers reported actions ultimately resulted in the fulfilment of the relevant policy aspirations even though the way in which this was achieved was not originally intended by the policies.

The table below (table 6.2) summarises the connections between the implementation gaps (chapter 5) and the contributing factors according to the components of the health system.

Table 6.2: Summary of the connections between implementation gaps and health system components

Implementation Gaps	Contributing Factors
Accessibility	Hardware: Inadequate infrastructure
Assistive devices	Hardware: • Financing (lack of participation in resource allocation meetings and unpredictable budgets) • Procurement Procedures of Assistive technologies • Service delivery Software: Relationships and Power
Consumables	Hardware: • Financing (lack of participation in resource allocation meetings and unpredictable budgets)

	• Procurement Procedures of Assistive technologies Software: • Relationships and Power • Ideas
Equipment	Hardware: Inadequate infrastructure
Rehabilitation Workforce	Hardware: • Inadequate or absent health information systems • Leadership & Governance • Service delivery (within and beyond health facility) Software: • Values and Norms • Ideas

Drawing from VeneKlasen and Miller's framework of expressions of power (table 6.3), we see how power is central to the rehabilitation managers' experiences of implementing rehabilitation policies and relatedly, the gaps seen in implementation in OR Tambo district (VeneKlasen and Miller, 2007). Since rehabilitation managers were clinicians who had landed in their roles by default, their power was challenged by the lack of legitimacy surrounding their managerial roles given that their manager-clinician roles were not recognised by the Eastern Cape Department of Health. The title would therefore have been a source of power but instead it was a title of convenience. While they functioned as managers, it was the senior managers in the health facility who exercised power over them when it came to resource allocation for rehabilitation services. Simply being informed of the allocated budget for the year with no opportunity to negotiate or appeal is an expression of *power over* the rehabilitation managers by those actively involved in the resource allocation process in the health facility. Moreover, I would argue that what makes the experience of rehabilitation managers particularly unique is their status within the medical hierarchy. Since medical doctors are often recognised and acknowledged as superior to other healthcare workers, including by rehabilitation providers themselves, this relative status may account for why rehabilitation managers' participation was lacking in resource allocation procedures. In OR Tambo district,

rehabilitation managers were not able to leverage their technical expertise as rehabilitation experts during resource allocation processes. This supports the findings of a hospital level study in Kenya in which physiotherapy managers were not able to leverage their clinical expertise to the same extent that medical doctors leveraged their clinical expertise to influence decisions regarding procurement of medicines (Barasa *et al.*, 2016b). Thus the managers could not derive power from their professional status within the hierarchy because, as professionals, they feature lower down in the hierarchy. The importance of being able to leverage power is particularly important in environments such as OR Tambo district, where there are competing priorities and limited resources, as has also been found in district-level decision making amongst health stakeholders in Uganda (Razavi *et al.*, 2019). Despite the hospital level, as in OR Tambo and district level, as in Uganda, operating with different resources and responsibilities, it is highly likely that influencing decision making by stakeholders through leveraging different types of power happens at all levels of the health system.

Table 6.3: How power is enacted

Expressions of Power (VeneKlasen and Miller, 2007)
Power over: Involves taking it from someone else and dominating and subjugating others
Power with: Involves finding common ground among different interests and building collective strength. Includes mutual support, solidarity and collaboration
Power to: Recognised the unique potential of every person to shape his or her life and world.
Power within: Recognised a persons' sense of self-worth and self-knowledge, and recognising individual differences while respecting others. Capacity to imagine and have hope, and affirms common human search for dignity and fulfilment

Despite this limited power, rehabilitation managers were not completely without power. Instead, they harnessed and exercised *power with*. Innovation arising from constraints is an expression of exercising *power with*. It was the solidarity between providers of HF 7 that made them leverage the

bureaucracy to ensure both providers had consumables procured. It was the mutual support and finding common ground with the absence of speech and language therapy services which made the speech and language therapist provide outreach to other districts, though this was unheard of since each district hospital should employ one according to policy. It was the extensive experience of the manager and *power over* the rehabilitation team, coupled with the strong pursuit of collaboration and teamwork as a core ethos in HF 3 that resulted in a beneficial relationship for rehabilitation managers between the NGO set up to support the hospital, and the fundraising activities. This contrasts to the findings of another study in Kenya in which a reduced sense of power in decision making in hospitals of middle level managers resulted in a culture of feigned compliance rather than innovation as demonstrated in my findings (Barasa *et al.*, 2017). In another study of South Africa and Kenya, health facility managers collaborated to re-introduce user fees while waiting for the government to make health facility funds available (Gilson *et al.*, 2017b). This is interesting because it suggests that in the presence of resource scarcity to provide services, managers may either externally appear compliant with policy aspirations or they will innovate. Either way, in both instances while it may appear that policy aspirations are being met overall, the current opportunity costs may in the longer term negatively impact service delivery and the population. This inevitable practice of power, whether formal or informal, is something that was also found amongst stakeholders involved in the implementation of a national community health worker policy in South Africa (Lehmann and Gilson, 2013). Indeed, rehabilitation managers in OR Tambo did not have formal power derived from their professional level, but they did exercise the agency that they had to implement rehabilitation service delivery according to their own understandings of their roles and of the service.

Rehabilitation managers in OR Tambo district had the internal belief that who they were and where they featured in the health journey of the patients was of critical value, even if that value seemed to be underestimated due to misunderstandings of the role of rehabilitation providers. This is why they held their patients with such high esteem, even considering them to be deserving of the same

respect as their own families. Possibly drawing from the inherent philosophy of rehabilitation which is about hope, dignity and fulfilment, rehabilitation managers appeared to demonstrate this *power within* by their daily pursuit to continuously provide care even in trying work circumstances.

Since Sheikh and colleagues' (2011) systems hardware and software framework looks at systems holistically; it does not explain why one health facility consistently fared better than the others. What made HF fare better than the other health facilities regarding rehabilitation service capacity despite its own implementation gaps, was that the rehabilitation managers benefited from more sources of power available to them compared to all the other health facilities. The clinical manager derived power from the combination of being a medical doctor, their position of authority over the health facility's clinical team including the rehabilitation team and being employed in HF 3 for 15 years. This clinical manager leveraged their power and experience as a senior manager to support and mentor the rehabilitation managers in the health facility. The presence of the NGO was another important source of power in HF 3 relevant to the rehabilitation managers. This is because the NGO's mandate is primarily to support HF 3. While the NGO's projects span a range including employing the translators for healthcare workers at the health facility, one of its projects is to specifically be a point of support for the rehabilitation department in HF 3 by collecting equipment donations and acting as a fundraising mediator for rehabilitation department supplies that the health facility budget does not cover. The collective sources of power in HF 3 likely resulted in consumables being purchased and a greater variety of assistive devices being available in the health facility.

VeneKlasen and Miller identify *power over* as an inherently negative concept suggesting domination and oppression. However, I would argue that in the case of HF 3, the clinical manager, exercised his *power over* not for subjugation but for the benefit of the rehabilitation service. Moreover, I would also argue that rehabilitation providers in all health facilities needed a space to express *power over*, that is to have control over human and material resources which comprised

rehabilitation service capacity in their health facilities. The rehabilitation managers needed to have *power over* but with the intention to better plan and deliver services, as should be expected of a manager. No amount of collaboration, recognition of the unique potential of individuals or sense of self-worth as expressions of power will be of use to improve rehabilitation service capacity if there are no policy, material and human resources to command for the provision of services according to government guidance. Having legitimate power would create the space for rehabilitation managers to meaningfully participate in resource allocation, which would lead to availability of funds to procure consumables and assistive devices. This in turn would positively contribute to rehabilitation service delivery.

Therefore, the consequences of a lack of the relevant hardware and the presence of maladaptive software coupled with the limited power of rehabilitation managers resulted in gaps between the rehabilitation policies and the available rehabilitation services at health facilities in OR Tambo district. The findings from the current study are similar to what has been found in the literature exploring implementation of policies in health systems, particularly at the health facility level. Lack of hardware and appropriate software leads to gaps. Studies have examined the role of managers and frontline providers in the planning and organising of health services. The rehabilitation managers interviewed in this study were clinicians who were, by default, placed in positions of managing the rehabilitation service at their respective health facilities. Thus, they may be viewed as hybrid-managers, that is clinicians who assume managerial roles (McGivern *et al.*, 2015). In particular, as the participants had not volunteered themselves into this role, they may be viewed as *incidental* hybrids. Similar to findings from a study of community health workers in South Africa, rehabilitation managers in OR Tambo district were required to implement policies with skills "learned on the job", leaving them feeling ill-prepared for their role (Rwafa-Ponela *et al.*, 2020). A study exploring hybrid-managers in Kenyan hospitals found that since participants had not volunteered to take on the role, this resulted in them prioritising their clinical roles over their managerial roles (Nzinga, McGivern and English, 2019). While the participants in my study did not

verbalise this, based on their reported experiences, much of the discourse excluded factors that related to the overall planning and organising of the service, and tended to relate to interactions with patients and provision of clinical care to patients. For example, some participants evaluated the success of the service based solely on whether individual patients were improving clinically rather than the ability of the rehabilitation service as a whole to achieve its overarching goals in the catchment area. The measures for assessing the service therefore seemed narrow because they only related to patient outcomes. In fairness, documenting health outcomes such as functional outcomes is recognised as crucial in health information systems for rehabilitation services (Mcpherson *et al.*, 2017). However, an assessment that looks solely at patient outcomes, fails to recognise the combined role of inputs and processes in providing an effective service, as has been written about in the literature on healthcare quality (Kruk *et al.*, 2018).

A study based in an urban district in South Africa involving managers of rehabilitation services from national, sub-national and health facility levels found that managers reported not having implemented the National Rehabilitation Policy (Dayal, 2010). This was attributed to limited awareness about the policy amongst facility managers which resulted in managers prioritising the clinical work that they had been trained in over the managerial aspects of the job. This is similar to the experiences of some of the managers in my study who reported that they had little or no access to policies. However, where participants did report having access to policies, implementation was limited by a limited sense of power to drive meaningful change and a lack of the necessary resources for service delivery. In a review exploring how frontline providers exercise of power influences policy implementation, Gilson and colleagues argue that the gap between policy and practice may be explained by how frontline providers exercise their power to either support or constrain implementation, and that gaps are due to exercised power which is misaligned with policy objectives (Gilson, Schneider and Orgill, 2014). The participants in my study were not officially employed as rehabilitation managers. While they had power in providing an account of rehabilitation services to the health facility managers and provincial managers, they did not feel

they had power to make meaningful changes to the service according to their experience and perspectives. This may be described as having a limited *decision space* where decision space refers to how much practical authority and choice an individual is formally or informally afforded in an organisation (Bossert 1998 in Muthathi, Levin and Rispel, 2019). A study on primary health care facility managers in two districts in South Africa found that 17% and 21% of participants reported experiencing a narrow decision space when it came to the availability of essential medication and resuscitation equipment, respectively, which are both vital components of the service (Muthathi, Levin and Rispel, 2019). Further, the findings suggest that this was linked to having limited budget and limited participation in budgetary processes.

While the participants in my study were managers of one service within a health facility rather than an entire facility, they reported limited involvement in the resource allocation at the health facility level and that this resulted in budgets which were not responsive to the needs of the service. Assistive devices and consumables could therefore not be procured to align with need. Consequently, wheelchair waiting lists were two years, which is antithetical to rehabilitation policy goals. The constraints in budgetary allocations in my study were reflective of a broader challenge of the finite resources available and competing demands for the various services available at each health facility. Indeed, this is one of the aspects which South Africa's incoming UHC plan aims to remedy through the creation of a single pool of resources with more funds available per capita to support service delivery (Department of Health, 2017b). However, in the meantime, prior to the full implementation of the UHC plan, the rehabilitation managers have to prioritise in light of resource constraints by reducing some service components in response to changing staff availability or by not providing the quantity mandated by the policies. These actions reflect methods of rationing in response to scarce resources. A study exploring the provision of physiotherapy services in rural Australia found that public sector physiotherapists employed rationing methods such as *delay*, *denial and dilution* (Adams *et al.*, 2015). Drawing from the work of Putoto and Pegoraro (2011), Adams and colleagues (2015) found that physiotherapists employed

rationing methods to navigate the responsibilities to provide services within the context of resource constraints such as stopping some components of the services to some wards when staff numbers declined (denial), instituting a waiting list for certain rehabilitation needs (delay) or not receiving the full extent of the available service (dilution). While what constitutes rurality in Australia might differ from that of South Africa, similar methods of rationing were expressed by the rehabilitation providers in my study. The consequences of which were that policy goals related to the components of services delivery and assistive devices were not being realised in OR Tambo district.

What further constrained the implementation of rehabilitation policy was the limited engagement with routinely collected rehabilitation data at the level of the health facility and the provincial level. Therefore, progress and problems related to the organisation and delivery of rehabilitation services are not being used to bring about meaningful change in the rehabilitation services. In my study the rehabilitation managers in OR Tambo were accountable to their respective health facility senior managers as well as to the provincial professional committee. They provided information on a monthly basis but there was no clarity about how their data was informing services. The network of accountability in my study seemed sparse, contrasting the dense network of accountability found in another district level South African study on the accountability mechanisms in place for maternal, neonatal and child health (Mukinda *et al.*, 2019). Despite the differences in the density of accountability networks, in both studies the managers simply complied in order to be assessed well by the relevant authorities. However, in both studies the accountability mechanisms were not being utilised to address the underlying problems of resources scarcity or delays in procurement processes. This suggests that it is not the density but the responsiveness of accountability mechanisms which may lead to changes which address the structural deficiencies in services.

In my study, the interplay between limitations in the available hardware and the presence of maladaptive software coupled with the limited power of rehabilitation providers may explain the

gap between rehabilitation policies, and available rehabilitation services across health facilities in OR Tambo district. Key insights from this study of rehabilitation managers suggest that they feel unprepared for the managerial roles in which they find themselves. Second, constraints in financial resources and transportation directly inhibit the ability to either procure assistive technologies or provide outreach services as part of service delivery. Third, the available accountability mechanisms are not responsive to both the gaps in existing resources and the extent to which the service is meeting the needs which present at the health facility. The combination therefore results in services which do not and are unable to conform to the aspirations set out in the national and sub-national policies.

Chapter 7: User Perspectives- Barriers and Facilitators to Accessing Rehabilitation Services amongst People with Physical Disabilities

7.1 Introduction

The previous chapters focussed on the supply of rehabilitation services. Chapter four addressed rehabilitation policies while chapter five assessed the gap between such policies and available rehabilitation services in OR Tambo District. Chapter six then explored the factors which may be contributing to the gap between rehabilitation policy and available services. The conclusion from these chapters was that there is a policy implementation gap as it relates to rehabilitation services in OR Tambo district. This gap is related to both the structural and relational elements within the health system. While this information is useful, it is incomplete because it does not provide insight into the access aspect of rehabilitation services. It should be noted that rehabilitation services may be required by many different population groups. The preceding chapters focussed on rehabilitation services broadly. This chapter now focuses on people with disabilities, and specifically physical disabilities. People with different types of disabilities might experience barriers and facilitators differently. Therefore, I opted to focus on people with physical disabilities for pragmatic purposes, as a tracer from which additional lessons might be learned for those with other types of disabilities.

Estimates concerning South Africa report a higher prevalence of disability in rural areas (8.7%) compared to urban areas (7.2%) (United Nations, 2016). Moreover, the prevalence of disability in rural areas in South Africa is higher than the national average (Statistics South Africa, 2018a). An exploration of whether people access health services is vital because health is a right for each individual as enshrined in international documents such as the United Nations Convention on the Rights of Persons with Disability, and local documents such as South Africa's National Health Act (Republic of South Africa, 2004; United Nations, 2018a). Rehabilitation services facilitate achievement of health but are under-prioritised as suggested by findings in chapters five and six. It follows that health for people with disabilities who could benefit from rehabilitation services is not

being achieved. Moreover, any public health interventions including the goals of UHC cannot be achieved because many people with disabilities are not accessing rehabilitation services globally and locally (Hashemi, Wickenden and Kuper, 2017; Kuper and Hanefeld, 2018).

There is a growing global need for rehabilitation services (WHO, 2017b; Bernhardt *et al.*, 2020; Jesus, Landry, Hoenig, Zeng, *et al.*, 2020), yet people with disabilities continue to have high unmet needs for such services and assistive devices in South Africa and globally (Kamaleri and Eide, 2011; Bernabe-Ortiz *et al.*, 2016; Kamalakannan *et al.*, 2016; Matter and Eide, 2018; Pryor *et al.*, 2018; United Nations, 2018b). In this chapter, I explore the barriers and facilitators to rehabilitation services in order to understand the factors influencing access in OR Tambo district, and the consequences of these factors for people with disabilities. Thus the research question which will be addressed is:

> *What are the barriers and facilitators to accessing rehabilitation services in OR Tambo district as experienced by people with physical disabilities?*

The objective is to explore the perspectives of people with physical disabilities regarding the barriers and facilitators to accessing rehabilitation services in their relevant catchment in OR Tambo district.

7.2 Methodology

Design

In order to explore the barriers and facilitators to accessing rehabilitation services, I conducted a qualitative study in a selection of purposively sampled catchment areas of the health facilities included in the chapters five and six in OR Tambo district. Qualitative studies are especially useful to not only describe what the factors relating to access are, but how these factors operate in either enabling or restricting access for each of the included individuals (Neuman, 2014).

Sampling and Recruitment

I employed a convenience sample of seven of the nine catchment areas in accordance with time and resource constraints (Neuman, 2014; Hinton and Ryan, 2020). Within each selected catchment area, I then employed a combination of convenience and snowballing sampling method within the included catchment areas (Hinton and Ryan, 2020). This included an initial meeting with the Traditional Leader to introduce the study, request permission to carry out the research and identify people with physical impairments (that is mobility impairments) living in that area. Where available, I also approached the local disabled people's organisations (DPO) to facilitate the initial identification of people with physical impairments. The research assistant and I then contacted the identified individuals to request directions to their household. Upon arrival at the household, any individual who was 18 years and older and with a physical impairment (as per the identification through snowballing) was invited to participate in the screening process after an introduction and explanation of the study was provided. Recruitment within each included catchment area continued until saturation was reached, that is there was no new information arising in the interviews.

Screening

Individuals who were 18 years old and with a potential physical impairment were asked eight self-reported questions relating to their function. The mobility module of the Washington Group Extended Set (appendix 7.1) was the instrument used by the research assistant to determine whether the individual met the criteria for inclusion in the study (Washington Group, 2011). If an individual answered *a lot of difficulty* or *cannot do at all* to at least one of the questions they were eligible for inclusion in the study. This threshold is likely to identify moderate to severe forms of disability while excluding milder forms of disability (Mactaggart *et al.*, 2016). Including people who reported 'some difficulty' would have substantially increased those who would have qualified as having a disability. Alternatively, capturing the moderate to severe forms of disability increased the likelihood of including more individuals who were currently attending rehabilitation services or

who may not yet have made contact with rehabilitation services despite potentially benefitting from the service. Thus, the chosen threshold allowed the research question to be answered whilst also ensuring that the study was feasible given the time and resource constraints. Additionally, the threshold aligns with other studies that use the Washington Group questions to categorise disability for the purposes of data disaggregation (Danquah *et al.*, 2015; Kuper *et al.*, 2015). The clinical presentation of the individuals included was expected to be different. Even so, the intention of study was to explore whether individuals were able to access appropriate rehabilitation services that address their specific impairments regardless of the differences between the participants.

Data collection

The consent process was conducted by the first research assistant to explain in-depth the purpose of the study as well as to address any questions which may arise. Consent was obtained from the individual and a witness was asked to sign as well (appendix 7.2). Where individuals could not sign or write their name, they had the option of either making an ink-thumbprint or marking with an "X". Although most participants were alone during the interview, if participants requested that their relative or caregiver be present during the interview, this was permitted. I then conducted the interview in isiXhosa in the homes of the individuals using a semi-structured interview guide (Hinton and Ryan, 2020) which I developed based on the World Health Organisation's (WHO) health system building blocks (WHO, 2010a). The type of information collected during the interview is presented in table 7.1 and is available under appendix 7.3. Interviews varied from 30 minutes to an hour depending on whether the participant wanted to speak more. With the consent of the participant, the research assistant noted contextual information on a guide which sought to describe the context in which the interview took place, the behaviours and emotions of the participant, and any other information of interest or questions that the research assistant wanted to ask (appendix 7.4). Interviews were audio-recorded and transcribed by a second research assistant with experience in translating and transcription, as well as working in the Eastern Cape.

Table 7.1: Information collected in semi-structured interview guide

Interview Guide Sections	Description
1. Demographic Information	Age, gender, educational status, disability grant status, household factors, relationship status, income
2. Background of current physical impairment	Type, area, history of impairment, use of assistive devices, functional independence, effect of impairment
3. Barriers and Facilitators to accessing rehabilitation Services	Services in catchment area, mode of transportation, interactions with providers, expectations of service
4. Overcoming Barriers	Generation of solutions

Analysis

Once the English transcripts had been prepared by the second research assistant, I organised them in NVivo 11 for analysis (QSR International, 2017). I employed thematic content analysis to guide the analysis because this approach allows the exploration of various perspectives whilst allowing comparisons between participants (King 2004 in Nowell *et al.*, 2017; Pope, Ziebland and Mays, 2020). Additionally, since I was looking specifically for barriers and facilitators to access as informed by the literature, this approach focussed my analysis whilst still providing ample opportunity for unexpected insights to be identified (Pope, Ziebland and Mays, 2020). First, I familiarised myself with all the transcripts by reading them and returning to the Xhosa audio material if I required clarification. I then created first-order codes for each transcript followed by second-order themes to connect the codes, being careful to look for both barriers and facilitators and their mechanisms. The processes of both data collection and analysis were documented in working draft which I discussed with my supervisors. Where conflicts arose, these were further discussed until consensus was achieved.

Ethical Considerations

Since I was working with people with disabilities, a traditionally marginalised population, it was imperative that I consider my position and any vulnerability which the participants may be exposed to as a result of the study. A study in a neighbouring district in the Eastern Cape reported that

amongst people with disabilities, some considered themselves vulnerable while others did not, therefore the experience of vulnerability should not be assumed (Nuwagaba and Rule, 2015; Vergunst *et al.*, 2016). Having said that, I ensured that all procedures were conducted with the consent of the participant and that each participant was aware that they were free to end the interview at any point with no consequence. I also relied on my research assistant, who knew the context well, to assist with non-verbal cues indicating discomfort.

In this context, I also needed to be aware of several factors. Firstly, I had previously worked in OR Tambo district providing rehabilitation services as a physiotherapist. Thus, I had a preconception that rehabilitation services were under-accessed and under-prioritised, but it was anecdotal. This could have made me enter the data collection process specifically looking for barriers at the expense of looking for facilitators as well. Therefore, I ensured that the question regarding facilitators was separate to the barriers one in the questionnaire. I also added prompts to the facilitators' question. Another strategy was to use the research assistant's notes to aid a post-interview discussion of what arose in the interview afterwards from both of our perspectives. Despite my attempts to ensure that it is the participants voices which come through the most, I was aware that it would be impossible to separate myself completely from the experience. Therefore, I embraced this data collection process as a co-creation process between me and the participants, in keeping with a constructivist paradigm (Neuman, 2014). Second, I am a Xhosa speaking, black women who aesthetically looks like the participants but my arrival in a car from a university based oversees put me in a higher socio-economic state. My participants knew this. This could have created a sense of distance between me and the participants. I therefore deliberately did not take any notes during the interview since the appearance of notetaking may have created the impression of an evaluator. I spoke Xhosa and asked questions when I needed clarification to demonstrate that I was not the expert of their experience.

7.3 Findings

In total, 53 people were recruited but five were excluded because they did not meet the screening criteria. Therefore 48 adults with physical disabilities from OR Tambo district were included in the study. The characteristics of the included participants are in table 7.2.

Table 7.2: Participant Characteristics

Characteristics	**Number (total=48)**
Gender	Females (21) males (27)
Age distribution (years)	10-19: (0) 20-29: (4) 30-39: (8) 40-49: (13) 50-59: (8) 60-69: (7) 70-79: (7) 80-89: (1) 90-99: (0)
Education	Incomplete primary (29) Complete primary (4) Incomplete secondary (11) Complete secondary (2) Complete post-secondary (2)
Disability Grant	46 recipients 1 does not qualify 1 in process of application
Assistive device use (combinations possible)	wheelchairs (24) crutches (20) walking sticks (6) orthotics (4) walking frames (3) prosthetic devices (2) no assistive device (1)

7.3.1 Barriers and Facilitators

The participants, who were individuals with physical disabilities residing in a rural district, reported several obstacles or challenges to accessing rehabilitation services within their catchment area. The following themes were relevant regarding accessing rehabilitation services at the health facilities in OR Tambo district:

1. Referral of services
2. Awareness of services
3. Financial considerations
4. Transport and road considerations
5. Accessibility of health facilities
6. Equipment availability
7. Perceptions of quality
8. Self-advocacy
9. Social solidarity

For each of these themes, I will draw out what people with physical disabilities in OR Tambo district regarded as barriers and where there were also facilitators. I will then identify whether these barriers and facilitators were experienced on the supply side or the demand side on the health seeking journey of participants. Lastly, I will draw attention to the consequences experienced by participants as a result of encountering barriers when accessing rehabilitation services.

Referral Pathways and Admission

Barriers experienced to rehabilitation services were related to referral from the community and referral during an in-patient stay. Some participants reported that they had not been referred to a

> *Uhm, I only go to the clinic to check up on blood pressure, diabetes and arthritis. I have never been informed about such doctors (physiotherapists). Not even the doctor who referred me to the clinic that I am using (I got him from Mthatha)- my daughter took me there.* (Female, 75y, HF7)

rehabilitation provider despite having made contact with another healthcare provider such as a pharmacist, nurse or a doctor. One participant expressed this saying:

Where referral to a rehabilitation provider was made, this reportedly occurred right before being discharged from the health facility as an in-patient after amputation surgery, thus leaving little time for a thorough engagement with rehabilitation services as described by one participant:

> *I only met a physiotherapist on the day I was being discharged. They showed me how to use the walking crutches. I had little time with the physiotherapist. As a result, when I left the hospital, I still could not walk… I am an active person so I taught myself to walk with those crutches.* (Female, 35y, HF1)

In addition to the absence of and untimely referrals to rehabilitation services, participants also lamented the inefficient referral pathway. One participant observed that Bedford Orthopaedic hospital, the referral hospital, had to serve the many surrounding district hospitals with regards to people with mobility impairments, resulting in long waiting times.

> *Another thing, I wish it was not only in Bedford hospital where they focus on our type of sickness because it gets really full there. All these surrounding hospitals send their patients to that one Bedford hospital and the nurses and doctors are not enough for that number of patients…You cannot spend three days without being attended to hence, I am saying it should not be the only place that deals with such patients.* (Female, 35y, HF1)

Contrary to the experiences of those participants who were referred late or not at all to rehabilitation services, some participants noted that as long as they were admitted in hospital as in-patients, they received and engaged with rehabilitation services during their admission. One

> *A physiotherapist first came (to the hospital ward) when I still had crutches to teach me how to walk.* (Male, 58y, HF5)

participant noted being attended to by a physiotherapist in the hospital wards during their admission after a stroke.

Another participant noted that during her week-long admission in the hospital, they participated in ward-based physiotherapy sessions. She recounted her experience saying:

> *I was admitted from Tuesday and got discharged the following week on Wednesday. I spent a week…I met a physiotherapist who came and explained to me that I need to get up and get dressed in order to be ready for physiotherapy. She started to stretch my fingers and my leg and explained to me what needed to be done. We did all this in the ward. She would come to my bed and we would work from there.* (Female, 70y, HF7)

Several participants felt that being admitted into hospital facilitated their access to rehabilitation services in a way that attending rehabilitation appointments as an outpatient did not. This view was shared by participants from different health facility catchment areas and health facility healthcare levels as evidenced by participants spanning Saint Elizabeth Hospital (regional hospital in OR Tambo district), Frere Hospital (regional hospital in a different district), and the HF1 catchment area.

What the participants described suggests that being admitted into a hospital increased the opportunities to engage with rehabilitation services. This makes sense because most barriers to rehabilitation services both inside and outside the health system are removed once an individual is already admitted into hospital. There was an exception to this since one individual reported inadequate time with the rehabilitation providers. However, admission into hospital does not constitute realistic or appropriate long-term management of rehabilitation patients since those who are admitted are likely still in the acute and sub-acute phases of rehabilitation. As patients

improve and move into a long recovery phase, they are usually seen as outpatients. It is then, once individuals need to be seen on an outpatient basis, that the barriers become more prohibitive.

Therefore, under the theme of *referral pathways and admission*, the findings suggest that barriers to rehabilitation services for people with physical disabilities were related to untimely or absent referral to rehabilitation services by other healthcare workers. Further, being admitted as an in-patient acted as facilitator to engaging with rehabilitation services.

Awareness of existing services

In chapter five, I established that five of the nine health facilities in OR Tambo district aimed to increase the coverage of rehabilitation services by providing outreach services to surrounding clinics and community health centres. However, not all participants were aware of the existing outreach services.

> *I am not familiar with the (HF5) procedure (of being attended to). I was hospitalised in Bedford.* (Male, 62y, HF5)
>
> *No, I haven't. I won't lie to you; I haven't gone to see any physiotherapist from the hospital… It's (only) the people I met at the meeting we had about wheelchair distribution (who have attended physiotherapy), but they are not from this village.* (Female, 49yr, HF1)

Another participant inquired about obtaining an electric wheelchair. However, he had not visited his local health facility (HF 5) after being discharged from the regional referral hospital. He was therefore unaware that his local health facility could be visited for an assessment and procurement of a more suitable wheelchair for him. He expressed intrigue in obtaining an electric wheelchair saying:

> *You told me that wheelchairs are not the same. Is there a wheelchair that goes on its own without you wheeling it?... What can I go to get it?* (Male, 62y, HF5)

Ferrules are consumables which were available in the health facilities (chapter 5). However, one participant noted that she needed ferrules but was unsure which services to approach to request them. Overworn ferrules may predispose a person to falls because of the risk of slipping. Therefore, I directed the participant to the rehabilitation services at HF 1.

> *The rubber (ferrules for crutches) is wearing off from the ones I got from Kokstad hospital. I do not know where I can get it replaced.* (Female, 35y, HF1)

The findings (chapter 5) confirmed that a physiotherapist was employed at HF4. However, despite his most recent visit to the health facility being earlier in the month of the interview, another

> *I don't know. I have never heard about them.* (Male, 56, HF4)

participant said that he was not aware of there being a physiotherapist at his local health facility stating:

An interesting perspective was that of another participant, who works in one of the health facilities and is herself a person with physical disability. She reflected saying that while HF3 did provide rehabilitation services, some people were still not aware of these services. This participant thus felt that the existing community health workers had an important role in continuing to improve awareness about rehabilitation services amongst community members.

> *People get the services that they need (at HF3), but you find that other people do not know about these services. But the community (health) workers are very helpful.* (Female, 37y, HF3)

Findings under this theme revealed that a lack of awareness regarding available rehabilitation services provided at the health facility or provided through outreach presented barriers to access. This is particularly important for areas such as that of HF 4, which had had a period of discontinued rehabilitation services, and HF 3, which has had a long history of providing services. This suggests

that efforts to improve awareness of services might need to continue when a service is re-introduced but also for more established services. Unless people are aware of the services and that these services align with their current mobility needs, they will likely not engage with them.

Financial considerations

A major theme amongst participants was related to financial considerations. Several participants noted limited finances, as a challenge for going to the health facility. During one interview, a participant noted that he missed his recent physiotherapy appointment because he did not have enough money to pay for the two taxis which would take him to the health facility.

> *I didn't go because of financial constraints… I take two taxis and same applies to when I am coming back. And the taxi drops me off at (the taxi stop) and I would walk from there to here.* (Male, 40y, HF5)

Similarly, another participant reported that in order to visit the health facility, she needed to hire a car which would cost R450 (approximately £22). This car hire fare would cover the return trip; however it constituted almost a fifth of the month's finances. Another caregiver reported that to hire a car would cost R300 (approximately £15), again an amount which would impact the financial position of the household for the house as the caregiver relied on the social grants (Female, 24yr, HF5 caregiver).

> *I have to hire a car…I pay four hundred and fifty Rands.* (Female, 75y, HF7)

Having limited finances meant that participants planned their visits to the health facility around available resources rather than around rehabilitation needs. For example, one participant reported

> *I was actually thinking of getting a new pair (of crutches) when I get my grant. I don't have money to travel now.* (Male, 39y, HF2)

that they would wait for payday before going to the health facility to get a new pair of crutches, since their current ones were worn out.

Similarly, one participant reported that they had heard that the health facility now employed rehabilitation providers, but they would wait until there was enough money to go to the health facility (Female, 75y, HF7). Another participant had visited their clinic and after assessment by the nurses, had been referred to the health facility since there were no rehabilitation outreach services to the clinic (Female, 46y, HF2). However, the participant had not yet been able to attend the appointment because of limited finances. He reflected on his limitations in functioning and financial constraints saying:

> *It has affected my life negatively because I can no longer do a lot of things for myself. I cannot walk long distances anymore, yet I was used to walking with my own two feet… I have (informed the nurses) in April. They said this situation is beyond their power so they will refer me to the hospital. I cannot go to the hospital at this point due to financial constraints.* (Female, 46y, HF2)

However, experiences of affordability differed between participants, with some participants being able to afford the transport costs.

> *Interviewer: Is that money affordable for you?*
>
> *(Female, 49yr, HF1): Yes.*

Most of the participants in the study implied that being in receipt of a disability grant enabled them to afford transport to attend their health facility appointments. The disability grant is a monthly social security grant provided by the Department of Social Development. In particular, they noted

> *It was hard for me to go to (HF5) due to financial constraints, but then getting a disability grant made things easy.* (Male, 46y, HF5)

that the days on which it was most feasible to attend their appointments was soon after their disability grants were paid to them and not before. One participant stated this plainly saying:

Under the theme of financial considerations, most participants reported that not having the appropriate finances prevented their ability to pay for both public and private transportation to the health facility, although private transportation carried a higher financial burden for households. It is possible that it was those participants who lived in the most remote regions not served by public transport, or those who had such severe mobility impairments that they required accompaniment who experienced the greatest burden of financial constraints in OR Tambo district. In this way, financial constraints acted as barriers to accessing rehabilitation services. However, there were a few participants for whom financial constraints were not a barrier to access. They found that the public transport fare was affordable to attend their health facility appointments.

Transport and road condition considerations

When participants were able to pay for transportation, they experienced challenges with the transportation system itself thus creating additional challenges for accessing rehabilitation services. One participant who mobilises using a wheelchair described experiencing discrimination saying:

> *Some of them (taxi drivers) leave you at the side of the road because you are not worth the trouble and some of them tell me that I have to pay for the wheelchair.* (Female, 45y, HF5)

Another participant reported that public transport was scarce around where they lived and if it did become available, it was inaccessible since she used a wheelchair. Therefore, she had to hire a car to go to the health facility.

> *They (public transport) are scarce. And taxis are not conducive to my condition anyway* (Female, 66yr, Hf8)

Particular reference was made to the road conditions of the HF5 area as a challenge when accessing the health facility. A caregiver expressed the transport options available to them in light of the road conditions saying:

> *If we didn't call an ambulance, we hire a car…It's R300. They (taxis) don't like taking people to (HF5) because of the bad condition of the road. (Female, 24yr, HF5 caregiver)*

One respondent reported that the quality of the road to their health facility (HF5) was poor and that the progress regarding its repair was slow. So instead of attending their designated health facility, they went to Mthatha, where the larger referral hospitals in the district are based.

> *What made me not to go to HF5… as a result they would complain a lot in Mthatha and say "we are tired of you guys. Why don't you go to (HF5)?". The problem is the road. They are taking forever to fix it. That road is really bad! So we preferred Mthatha because it's closer to us.* (Male, 46y, HF5)

The full length of road that the participant referred to is approximately 39 km (about 20 miles) and is made of gravel that is littered with potholes. Though such a journey would likely take 38 minutes on a tarred road in other parts of the district, in practice, the road to the health facility could take almost an hour in a private vehicle. The area surrounding HF5 was not the only area with poor road conditions. Another participant reported that in order for him to attend his appointments at the health facility, his wife has to push him in his wheelchair because of how uneven the terrain from his home to the health facility was.

> *My wife always has to push me because of the type of soil there is around.* (Male, 40y, HF3)

The findings point to the public transport system as a barrier because of the negative attitudes of drivers towards people with mobility disabilities, the additional fare expected for assistive devices, and routes which were not regularly serviced by public transport because of remoteness. What

further amplified the impact of transportation as a barrier was its association with finances because participants first had to overcome financial constraints before engaging with the transport system, be that public or private transport. Moreover, the roads upon which vehicles travelled was a barrier to access because of the poor quality of roads. Even where the road to the health facility was tarred, which was not the case for HF5 due to the rurality of OR Tambo district, the adjacent roads which people needed to travel to get to the tar road were not tarred and of poor quality.

In contrast, there were three participants whose responses suggested that the location and terrain of their homes was a facilitator to accessing rehabilitation services at their local health facility. One participant reported that her children push her in her wheelchair to the public transport stop because her house is close to the road. Another participant stated that he walks to his nearest health facility, which is a 30-minute walk (Male, 63y, HF3).

> *I have to take a taxi. My children have to push me to the taxi since my house is close to the road. The taxi stops in front of the hospital where I can get out and push myself inside.* (Female, 45y, HF5)

While these two individuals could benefit from the location and terrain without needing to change it, another participant reported lobbying her municipal councillor to create a level path from her house to the road. When this failed, she independently enlisted the assistance of contractors who had been employed to repair the main road and paid them R1000 (approximately £50) to level the ground and grassy plane in order that she could more easily attend the health facility. While this change was welcome, it was a costly trade-off that she ended up making.

> *He (municipal councillor) never comes to check up on us, he only comes when he's campaigning to lure us into voting for them. When we complain, he would only attend to certain people's needs, because I had requested him to make a path for me and they made empty promises. He even failed to give me a wheelchair…It was bad- it was very grassy! This road was made between October & November. I asked someone who was a contractor to make it for me and was charged R1 000.* (Female, 43y, HF8)

While this was the case for the three participants, since all the participants interviewed lived in rural areas which were far from their health facility, most participants did not benefit from location and terrain as a facilitator to accessing rehabilitation services.

For referrals to the referral orthopaedic hospital, participants noted that having patient transport made available by their health facility made attending their rehabilitation appointments easier. One participant described that on the day before the appointment at Bedford Hospital, they would travel to and sleep at their health facility on the chairs or the floor, because the patient transport leaves early from the health facility.

> *We sleep in (HF5) because the transport comes early in the morning. We sleep on the chairs. If you did not have a blanket you will be cold the whole night. If you are tired of sleeping to the chairs you will have to sleep on the floor.* (Male, 75y, HF5)

Similarly, another participant reported that they would first take public transport to the health facility and then wait for the health facility transport which would leave to the referral hospital at 1am.

> *I first have to go to HF1 to catch the ambulance (health facility transport). The ambulance would then leave for Mthatha around 1am.* (Female, 48y, HF1)

The benefits of the availability of health facility transport facilitated access to rehabilitation services at the referral hospitals which were situated in cities. However, the participants' responses suggest that this was not without challenges. For instance, sleeping overnight in the health facilities' reception area was uncomfortable and cold, and individuals needed to arrange their own meals. Additionally, participants still retained the responsibility of covering their own transport to get to the health facility before using the health facility transport.

While they were in the minority, there were four individuals whose access to their own transport or that of someone they knew, facilitated attending appointments at the health facility. Two participants who were both male wheelchair users owned their own cars and would drive themselves using adapted mechanisms to do so (Male, 44y, HF1 and Male, 48y, HF7). Another participant reported that a social worker had offered to transport her (Female, 56y, HF7) while the remaining participant, who was a caregiver, reflected that a relative who owned a car transported them to the health facility on one occasion. This quote captures the sentiment expressed by the individuals with access to their own cars or that of people they knew:

> *We recently got these cars not long ago. Before we had them we were struggling a lot with transportation. We were making use of taxis/ public transport. We dreaded travelling on public transport because they are not suitable for people living with disability.* (Male, 48y, HF7)

Thus far, the barriers and facilitators reported have been applicable to the journey of an individual from their household to the health facility. The following findings now describe the barriers and facilitators people with physical disabilities in OR Tambo district encountered once they arrived at and entered the health facility.

Accessibility of Health Facilities

One participant noted that the entrance to the rehabilitation department needed a ramp and that the rest of the department needed to be more spacious to be able to accommodate the various individuals who visit the rehabilitation department.

> *I would like to see a ramp at the entrance to physiotherapy and would like physiotherapy to be more spacious.* (Female, 37y, HF3)

This contrasted the finding from HF3's accessibility audit (chapter five), where there was a ramp to the rehabilitation department according to the dimensions specified in the audit guidelines. This

discrepancy may mean that the people with physical disabilities in the district may find that the stipulated guidelines do not align adequately with their needs or preferences. However, this would merit further research into the appropriateness of the Sightsavers Accessibility Audit guidelines for the South African context.

A participant was unaware that the rehabilitation department had accessible toilets to accommodate his wheelchair (Male, 37y, HF3). But another participant noted that while there were accessible toilets in the health facility, they were reserved for the hospital staff saying:

> *We (people with disabilities) do have toilet facilities at the hospitals but they are being used by the hospital staff and we not allowed to use them.* (Male, 49y, HF8)

In contrast, there were two participants with wheelchairs whose experience of the health facility infrastructure was positive. They noted structural aspects of the health facility which made entering and navigating the health facility easy. One participant noted that it was in the previous two years that ramps were installed at the entrance of the health facility:

> *At OPD there used to be a problem (of accessibility) but it was resolved. They installed ramps.* (Female, 45y, HF5)

Considerations of accessibility of the health facilities were not limited to the physical infrastructure but also to aspects relating to communication with healthcare providers. One participant, who has a physical impairment, empathised with people with other types of disabilities for whom the health facility was inaccessible. She expressed frustration at the absence of health facility staff to engage with a person with a hearing impairment because of the lack of sign-language interpreters stating:

> *If there is a deaf person that requires assistance, he or she won't be able to get assistance because he is not understood as there are no interpreters.* (Female, 60y, HF2)

Regarding communication, a few participants noted that since many of the rehabilitation providers could not speak Xhosa, which is the local language, the presence of translators in the health facility helped to facilitate communication between the individual and the rehabilitation provider. This was reflection was also noted by rehabilitation managers (chapter six). One participant reported that even though they interacted with the rehabilitation providers through translators, they felt that they were well-treated and respected.

> *The doctor (rehabilitation provider) is white so we interact with translators. But yes, they do treat me with respect. I am well-treated…The translators are very helpful.* (Male, 37y, HF3)

Another participant reported that while the rehabilitation provider at the referral hospital was white, they could speak Xhosa and this facilitated rehabilitation care (Male, 58y, HF5). Considering that translators were usually individuals from the same community as the participants, when asked about the relationship between the translators and the participants, participants reported that the translators were very helpful and that there were no areas of improvement required.

Conversely, where there were no translators available, interactions between the rehabilitation providers and the participants led to difficulty in communicating needs. For example, one participant reported that it was difficult to attend rehabilitation appointments on certain days of the month before payday but did not feel able to negotiate another more suitable date because the rehabilitation provider did not speak Xhosa.

> *It's hard because we do not speak the same language.* (Male, 40y, HF5)

Another participant reported that if there were no translators available at a particular time, the rehabilitation provider would ask for assistance from another patient in the waiting line, who could facilitate the communication.

> *Even when there are no translators available, they ask us if there is a person amongst us who can help translate because they need each client to clearly understand all that is said to them, but usually there are always translators available.* (Female, 45y, HF5)

Under the theme of accessibility of health facilities, the findings suggest that there were both barriers and facilitators. The barriers to access were the lack of suitable ramps, unavailability of accessible toilets, lack of sign language interpreters and the absence of translators to bridge the language barrier with rehabilitation providers. These findings lend weight to the findings of the accessibility audit in chapter five which pointed to very limited accessibility in health facilities as it relates to accessible toilets and sign language interpreters. Conversely, where translators, formally employed or not, were available, this facilitated communication with the rehabilitation provider, thus acting as a facilitator to access.

Equipment availability

The availability of equipment at health facilities was another major theme amongst participants in OR Tambo district. Several participants described the lack of assistive devices at their relevant health facility as a problem. One participant plainly stated:

> *There are no assistive devices for disabled people.* (Female, 60y, HF2)

While one participant noted that they were well treated when engaging with rehabilitation providers, the absence of wheelchairs was hard to ignore.

> *I was well-treated. I was treated with respect (at Bedford) and same applied to HF2. They attended to my needs. The only thing that I'd criticize is the scarcity of wheelchairs.* (Female, 44y, HF2)

Another participant agreed that they were treated with respect and observed the same challenges with obtaining wheelchairs, particularly as it related to the long waiting times of two to three years.

> *I was well-treated. She even told me that it was hard to get wheelchairs. It takes three years for one to get it.* (Male, 39yr, HF8)

One participant relayed the stark reality of a health facility that did not have a wheelchair to issue him on the day that he was discharged from hospital saying:

> *I was taken out of the hospital on a wheelchair and then put in the car and the wheelchair was taken back to the hospital…There was no explanation given. We were told that the doctor who was supposed to give the wheelchair was on leave at that time.* (Female, 70y, HF7)

Participants recounted experiences of arriving at health facilities to find that assistive device consumables such as ferrules were not available. Similarly, another participant who required a walking stick was told that it was not available at the clinic and ended up obtaining a used walking stick from another individual in the community who no longer needed it.

> *I got it (walking stick) from someone who stopped using it…I was told that they do not have it at the clinic.* (Female, 75y, HF7)

The reported waiting time for obtaining assistive devices differed. One participant reported having waited three months for a wheelchair after her injury (Female, 72y, HF7) while others reported that it was a luxury to obtain a wheelchair and that it took three years.

> *They (rehabilitation provider) even told me that it was hard to get wheelchairs. It takes three years for one to get it* (Male, 39yr, HF8).

One participant who was one of only a few in our study with an electric wheelchair, reported that his attempt to obtain new batteries had been unsuccessful, thus limiting his ability to use the wheelchair in everyday activities (Male, 48y, HF7). Another participant also reported frustration that when they did receive them, the assistive devices were not durable for use along the terrain (Male, 37y, HF3). This was echoed by another participant who noted that the quality of wheelchairs had dropped such that wheelchair repairs were regularly required (Male, 49y, HF8). One participant's response represented many of these experiences by describing the limited availability of assistive devices in health facilities and the lack of repair services for wheelchairs in his quote:

> *I prefer the quality of the wheelchairs I had before compared to the ones that are being made now. The wheelchair that I first got was strong and it lasted me four years. The one that I recently got was also supposed to have lasted me three years but it didn't. So now I am not allowed to take it back to the hospital before the three years hence I built (repaired) this one myself.* (Male, 49y, HF8)

Despite resounding agreement amongst most participants regarding the lack of assistive devices and related consumables in health facilities, there were a few participants whose experiences of equipment availability were different. A few participants described the availability of equipment as a facilitator to benefitting from rehabilitation services. One participant, who has engaged with rehabilitation services repeatedly noted that the presence of equipment had improved over time and thus she was able to continue to benefit from rehabilitation services.

> *As compared to previous times, now there are machines that can be used to exercise and they go the extra mile to make sure I get what I need.* (Female, 45y, HF5)

Another participant reported that the rehabilitation providers were not only able to provide him with a wheelchair, but that the rehabilitation providers provided one which was suitable for outdoor use on uneven terrain, thus enabling the participant to be able to go outdoors and to push his own wheelchair on more even terrain. He reflected on this improvement saying:

> *It was not suitable for outdoor purposes (so) I was given a different wheelchair. There is a difference because the one I used before was not able to go outdoors, it was meant for indoor use only.* (Male, 40y, HF3)

Another participant reported that after his walking stick broke, he was examined by the rehabilitation provider and then he was able to obtain a new one from his health facility the following month (Male, 40y, HF5). Similarly, another participant from the same health facility reported that in the preceding year, they had been assessed and given a return date upon which he was then provided with a wheelchair:

> *I got it from HF5. We got it the same day. They stretched my leg and I was told to return and then I was given a wheelchair.* (Male, 34y, HF5)

Regarding timeliness of rehabilitation services, one participant reported that when they went to collect new crutches, they were able to return home with them on the same day, and that they were satisfied with the crutches (Male, 39y, HF2).

Another participant, whose local health facility is HF5, had their surgery and rehabilitation conducted at the referral hospital in Mthatha. The participant noted that the rehabilitation providers were always able to provide him with new crutches when the ferrules wore off. This is the same participant who noted that his local health facility was closer but that it was easier to attend the referral hospital for his appointments due to the time it took on the road to get there.

> *This is my fourth pair of crutches now. The first pair that I was given was not suitable for me so I requested another pair. So the following pairs after that have since been worn off. The rubbers wear off quickly. I am allocated HF5 but all my procedures were done in Mthatha (surgery and physiotherapy) even though it would have been easy to go to HF 5 as opposed going to Mthatha.* (Male, 74y, HF5)

A participant with a prosthetic leg noted that he could exchange the prosthetic when it got old and that after each appointment, he would wait about a month before receiving it at no-fee at the referral hospital (Male, 63y, HF3). Another participant, from the same health facility area (HF3) reported that a few years prior, he had been issued a wheelchair which he said made him fall often. After reporting this to the rehabilitation providers, he was issued another more suitable type of wheelchair.

> *It (first wheelchair) was not suitable for me., It made me fall. They (rehabilitation providers) did not give me any issue, I just explained what the problem was and they gave me another one easily…Yes, this one is treating me well.* (Male, 37y, HF3)

Similarly, another participant reported that being issued with an electric wheelchair has "made a huge difference". This participant was able to obtain this wheelchair through South Africa's Road Accident Fund (RAF) as compensation after the injury (Female, 37y, HF3).

Under the theme of availability of equipment, the findings pointed to the unavailability of assistive devices such as wheelchairs and related consumables, such as ferrules, as major barriers to accessing and benefitting from the rehabilitation services in OR Tambo district. These findings give credence to the implementation gaps established in chapter five as it relates to assistive devices and consumables because most individuals reported unmet needs relating to assistive devices, consumables, or the repair of assistive devices. However, though they were in the minority, positive experiences highlighted the facilitators. This appeared to be related to HF5 and HF3 which did have the two highest combined availability of equipment, assistive devices and consumables (chapter five). These were instances where assistive devices appropriate to the needs of the individual where available, and in a timely manner, and where consumables were available at the health facility to repair worn ones. Therefore, equipment unavailability served as a barrier while equipment availability served as a facilitator in OR Tambo district.

Perceptions of quality of services

There were some participants who expressed concern about the quality of rehabilitation services or of other health services they encountered while seeking rehabilitations services. As a result, some participants reported seeking rehabilitation services outside of their designated health facilities. The service quality was reported by another participant to extend to the rest of the health facility, beyond the rehabilitation department.

> *In the olden days, Bedford used to be better at least one would leave with some satisfaction in their hearts, but now the service is very poor. (Male, 44y, HF1)*

Similarly, another participant was displeased by the services she received at the clinic when she wanted a walking stick. She noted this saying:

> *I was told that they do not have it (walking stick) at the clinic, the nurses there are rude. It is better to visit a doctor (at the hospital) than to go to a clinic because of the attitude of the nurses.* (Female, 75y, HF7)

Another participant expressed disappointment with the physiotherapy service at HF 2 because she felt that she did not receive engaged or a sufficient intensity of rehabilitation services.

> *Sometimes even though you do not know what a person's job entails, you can tell when the service was good or badly rendered…I feel like I would have been satisfied if they stretched my legs thoroughly instead of what they did. It didn't even feel as if I was touched.* (Female, 27y, HF2)

One participant, who had no mobility functioning and no assistive devices to facilitate her mobility, was disillusioned after not seeing the desired health outcomes during rehabilitation. Speaking from her bed in her home she said the following:

> *I never stopped going even after I have become bedridden. I would hire a car and go to my check-ups from time to time. I decided to just stop going (to physiotherapy) because I could not see any progress…The only thing I have been reporting is the medication I was on. It is not helping. I have never told the doctors that I was going to stop going to check-ups- it's the decision I took on my own. I got discouraged because I did not see any progress.* (Female, 66yr, Hf8)

Moving beyond the rehabilitation providers themselves to the management of health facilities, one participant related "negligence" with the lack of rehabilitation service quality at Bedford Hospital. She described that the poor services were related to the hospital management who, through alleged corrupt practices, failed to repair the machines required for manufacturing assistive devices.

> *I think it is negligence. I even reported the broken machine to the managers, and it turned out they were aware of it. Apparently, the money to repair and replace the machine just disappeared. So a challenge on that side also is corruption, because the money for the machine was issued and disappeared.* (Female, 35y, HF1)

On describing the differences between healthcare providers in Kokstad, in which a well-functioning orthotic and prosthetic service was located, and Mthatha where Bedford Orthopaedic Hospital is, one participant remarked that patients were treated badly in Mthatha while in Kokstad, the providers were kind and they seemed to care.

> *For me I think it has to do with the province, because the medical practitioners in Kokstad are based in KZN and they are very kind. They care. The ones from here (Mthatha) treat patients badly. You get dismayed just by speaking to them.* (Male, 46y, HF5)

Under the theme of perceptions of quality, participants raised concerns about how healthcare workers engaged with them as well as disappointments with rehabilitation services because the service was either inadequate or it did not lead to desired health outcomes. These collective experiences revealed that poor quality of services, relating specifically to rehabilitation services and other health services, as perceived by the participants was a barrier to engaging with and benefiting from rehabilitation services. In contrast, where participants encountered kindness coupled with a health facility with equipment, they highlighted this as a facilitator to rehabilitation services.

Self-advocacy

In a social climate where people with disabilities encounter stigma and are expected to not speak up and advocate for their own needs, the participants' capacity for self-advocacy was key facilitator to access. The term "self-advocacy" refers to a person's ability to speak up for themselves and represent their own needs; and has its roots in the disability civil rights movement (Test *et al.*, 2005). One participant reflected saying that what worked in his favour when attending health facilities was his extensive knowledge of how health facilities work, having previously worked in a private pharmacy in prior years.

> *Fortunately for me the fact that I know a lot works in my favour and as a result they know me. I don't even stand on queues when I go there…Yes, because I am very vocal.* (Male, 46y, HF5)

Another participant expressed that after having noted that the machine which is used for manufacturing artificial legs at Bedford Hospital was not functioning, she approached the hospital managers. In this instance, she represented the many individuals with persisting unmet needs for prosthetics in OR Tambo district.

> *The other challenge was the measuring machine… I was told it stopped working since 2011 and I was told this in 2014. What were they waiting for all these years even though there are always people wanting artificial legs?... I think it is negligent. I even reported the broken machine to the managers, it turned out they were aware of it and apparently the money to repair/replace the machine just disappeared.* (Female, 35y, HF1)

One participant, who was a young woman with a spinal cord injury and currently using a wheelchair, reported that she had hoped that she would one day walk again with this statement:

> *I am hopeful sisi, a lot.* (Female, 27y, HF2)

Having hope in a future positive outcome may also be a form of self-advocacy because the participant chose to not accept that her current mobility limitations would be her final reality. One participant, upon noticing that his wheelchair constantly made him fall because of the terrain around his house, returned the wheelchair to the health facility and requested another one, rather than accepting that there were no other options. He reported that he explained the problem to the rehabilitation providers and was issued with another wheelchair.

> *It (first wheelchair) was not suitable for me. It made me fall…They (rehabilitation providers) did not give me any issue. I just explained what the problem was and they gave me another one easily.* (Male, 37y, HF3)

Based on these participants' responses, the findings revealed that having a sense that one could either raise awareness of or change a situation by standing up for oneself, made accessing rehabilitation services easier. However, this did not always result in an immediate change that improved access. Additionally, a belief in functional improvements in the future was likely to help participants continue with their long rehabilitation journey by engaging with rehabilitation services. Therefore, self-advocacy acted as a potential and actual facilitator to rehabilitation services in OR Tambo district. Alternatively, where a participant felt despondent about the outcome of care, as reported under the perceptions of quality, this prevented participants continuing to engage with the service.

Social solidarity

Several participants reported instances where another individual or group, related or other, would accompany them to rehabilitation appointments, such that in the absence of these social connections, accessing rehabilitation services would be difficult. One participant reported that she accompanied other individuals to their appointments who were also part of the disabled people's organisation (DPO) project in her local area (HF2).

> *Some of them do not know the place, some do not accept that they are disabled. Some get tired of going there so I have to encourage and go with them…I use my own money. I think I can do more by teaching those in my group the things I have been taught at physiotherapy.* (Female, 45y, HF5)

Similarly, another participant described that the DPO had the benefit of having its own car which enabled members of the DPO to use it to go to their appointments at the health facility thus overcoming the financial and transport barriers (Male, 46y, HF2). This participant also reported that when he needed to go to the referral hospital in Mthatha, he would also ask his brother who owned a car. Another participant who used a walking stick and who attended his rehabilitation appointments in Mthatha reported that he would arrange with and pay someone who works in Mthatha to pick him up from his home and drop him off at the hospital. He then returned using three taxis and walked the remaining distance to his home (Male, 58y, HF5).

This sense of having a social network from which to experience practical means of support was again noted by another participant. One participant who was born with reduced functioning of their leg noted that after prayer which improved the function of the leg somewhat, their pastor's daughter, who is also a nurse, bought them an orthotic shoe to aid with their mobility. Both his faith community and relational connection with the nurse played an important role in his rehabilitation.

> *When I came to (HF2 area), my left leg and my left arm were not functioning well and it was very difficult for me to walk. I did not even have a walking stick. I then prayed and thereafter my leg and arm started functioning. My pastor's daughter was working as a nurse. She then bought me a shoe. That's when my leg also started cooperating.* (Male, 75y, HF2)

Another participant's caregiver, who was also present during the interview, noted that she accompanies the participant when he attends his physiotherapy sessions in Mthatha. However, for this participant, being in receipt of a disability grant also exposed some of the tension which emerged between the caregiver and the adult participant. The following excerpt reveals some of the tension that can arise when an adult, whose cognitive functioning is intact and has mobility limitations, is provided care by a caregiver who is also a relative:

> *Caregiver: I fetch his treatment myself but sometimes I would take him for check-ups. I haven't taken him to the hospital in a long time, but I did take him to Mthatha for physiotherapy. The physiotherapists encouraged him to exercise here at home because he's mostly here, but he refuses.*
>
> *(Male, 34y, HF5): I don't want anyone next to me. I only do the exercises secretly when there's no one watching…Mama (caregiver) discourages me. She would say I must stop what I am doing and just sit down.*
>
> *Caregiver: First of all, (participant) refuses to take instructions from me. He only takes instructions from his sister. What he just said now is not entirely true. I would plead with (participant) time and time again to do the exercises but I would see that he sometimes does them just to appease me, not because he wants to. I would then say to him, "(participant) this thing must come from the bottom of your heart. If you are doing it to please me, then it defeats the whole purpose so you better sit down."*

Under the theme of social solidarity, the presence of a DPO in one area not only provided transport for rehabilitation appointments, but it also afforded participants with connections among themselves to attend rehabilitation services in another district too. Caregivers, other community members and faith communities through their relationships with participants and access to resources also enhanced the ability of participants to benefit from rehabilitation services. However, social support did not always yield benefits, particularly where there was tension between the caregiver's support and the desired independence of a participant. This tension ended up limiting the participants engagement with rehabilitation services. Therefore, social support from individuals and communities acted as a facilitator and, to a lesser degree, a barrier to rehabilitation services in OR Tambo district.

7.3.2 Access factors: Demand-side and Supply side

In summary, the findings amongst people with physical disabilities in OR Tambo district revealed that participants encountered both barriers and facilitators when accessing rehabilitation services. The following barriers and facilitators related to the demand-side of the rehabilitation seeking journey of the participants (box 7.1):

Box 7.1: Demand-side Barriers and Facilitators to Access

- Awareness of existing services
- Financial considerations
- Transportation and road conditions
- Self-advocacy
- Social solidarity

Once individuals arrived at the health facility, they also encountered the following barriers and facilitators related to the supply-side of the rehabilitation seeking journey (box 7.2):

Box 7.2: Supply-side Barriers and Facilitators to Access

- Referral pathways and admission
- Accessibility of health facilities
- Equipment availability
- Quality of services

Regarding the barriers, beyond stating the presence of the barriers, participants were going a step further. The responses of the participants suggested that when encountering barriers, two things could happen. The first relates to "what people do to the barriers" or in other words, how the participants generated ideas to overcome these barriers in order to access rehabilitation services. The second, relates to "what barriers do to people" or in other words, how the presence of barriers exposed the participants to harm.

7.3.3 Consequences of Barriers

What people do to the barriers *(overcome them)*

First, participants reported a range of ways in which they overcame the barriers which they encountered in order to access rehabilitation services. One participant noted that because of the unpredictability of transport availability, she would leave her house early, at 7am, in case she had to wait a long time for a taxi.

> *I get out at seven in the morning because I know I have to wait for a taxi.* (Female, 45y, HF5)

In pursuit of an artificial limb and with support from his former bosses, another participant travelled to hospitals in provinces as far as the Free State to try and find a solution. He detailed his predicament and attempt to correct it saying:

> *Yes, I have been to hospitals in Bloemfontein, Kokstad and East London but I was told that since I was amputated over the knee in one leg it was difficult for them to design an artificial limb for me. What was even hard was to see people who had been in my situation walk again with their own limbs (those who got approved for artificial limbs). My bosses at work also encouraged me to get artificial limbs because they said they would find a suitable job for me. They were very fond of me.* (Male, 53y, HF8)

One individual reported approaching their municipal councillor, who is politically elected to serve on the local municipality, to assist him with getting a wheelchair. However, there was no success. There were also other participants who reported making personal payments in order to privately get repairs or new assistive devices.

> *I bought it (wheelchair) from a random person. I did not even know where they got it…It was around R500 and it was not even new but I was desperate.* (Female, 35y, HF1)
>
> *I got them (orthotic shoes) a long time ago. I now just only change the sole & rubber with my own money because I have no faith in Bedford now… R120 (to replace the sole) and then the other shoe requires a thicker sole which then costs R160. I have two shoes and they both have metal parts.* (Male, 44y, HF1)

Another participant reported doing his own repairs from the parts of old wheelchairs (Male, 49y, HF8) while others got their assistive devices from others in the community who no longer needed them.

The responses represented solutions generated by individuals to meet their rehabilitation needs. There were also instances were groups collaborated to overcome barriers as in the case of the DPO. In particular, a recurring mention was “Kokstad”. The DPO is an active NGO project supported by a petroleum company, which assists individuals who are in need of assistive devices to obtain them

by going to another province which has a government hospital that has a reputation of providing assistive devices to individuals.

> *They go (to the hospital in Kokstad) on the first week of every month, but at the moment we are still waiting for funds because the cars need fuel. Measurements are taken there. And then they would be called back (to the hospital) to go fetch them. We would transport them with those cars for free. It takes only one month.* (Male, 46y, HF2)

A participant detailed this experience of going to Kokstad, in the province of Kwa Zulu Natal, to access orthotic shoes saying:

> *I was helped by someone I'm with in the (DPO) project. He has a connection with someone in Kokstad. I was sent to Kokstad with project transport. When we got to Kokstad they said I should give them my details but when I was giving them details, I did not mention that I'm from (village). I said I'm from Mthatha. The doctor said, "there are a lot of people that are coming from Mthatha to Kokstad so it is clear that HF5 has poor services". The doctor helped me and said she will let us know when to come back. After two weeks I received a call from Kokstad that says my shoe is ready. I went to Kokstad with the project car to fetch my shoe. I do not pay for the transport because I'm also the member of the project.* (Male, 75y, HF5)

What barriers do to people *(predispose them to harm)*

The presence of barriers to access also predisposed individuals to different forms of harm related to finances, their health and their dignity.

Financial Harm

After his attempts to visit hospitals in the Eastern Cape as well as in other provinces, such as the Free State, to obtain a prosthetic limb failed, one participant then decided to obtain a motorised wheelchair privately. He contacted a local radio station and was connected with someone who said he would sell him a motorised wheelchair for R1600 (approximately £80). However, nearing the date of transfer, the participant realised through an unrelated conversation that he was about to be defrauded and thus this possibility fell through (Male, 53y, HF8).

Unfortunately, there were some participants who were unable to avoid the financial expenditure linked with attempting to obtain assistive devices. For two participants, barriers to accessing rehabilitation services at their allocated health facility predisposed them to significant financial losses. For one participant, this was because hiring a private car to attend appointments cost them R450, which constitutes almost a third of the month's social grant (Female, 75y, HF7). For perspective, one third of the of the income was utilised before groceries and other immediate costs had even been paid for. Another participant reported that she had to purchase a used wheelchair for R500 because she did not have one and did not have other alternatives.

Health Harm

Potential and actual financial losses were not the only harms that participants were exposed to because of existing barriers. For one participant the structural construction of the entrance at the gate at his health facility contributed to the participant falling from his wheelchair (Male, 49y, HF8). This participant reported usually being capable of pushing his own wheelchair without help except when the wheelchair itself needed to be boarded onto public transport. His injury required admission to Bedford Orthopaedic Hospital in the preceding three months. The structural infrastructure at the entrance gate posed a barrier in terms of accessibility for the participant and resultantly contributed to this participant's health harm.

Another participant lamented the lack of durability of the crutches for the terrain. He reported that the crutches which he had received from his health facility resulted in him falling because the crutches broke often (Male, 37y, HF3). In the preceding weeks, his crutches had made him fall and at the time of the interview, he had injured his right arm and was thus moving around with the use of the left crutch only while his right arm was healing. While waiting for three months after his accident to receive a wheelchair, another participant reported that she was immobile during that time and "just sat (here) all the time" (Female, 72y, HF7). Prolonged immobility predisposed this

participant to an increased risk of obtaining pressure sores. Thus, this waiting period for an assistive device may have compromised his health by him developing secondary conditions.

Dignity and Personal Cost

Besides financial and health harms, participants also encountered personal costs because of barriers to rehabilitation services. One participant reported that after his first wheelchair, which he had obtained from his health facility (HF8), got old, he tried to obtain a new one by contacting the municipal councillor, who noted his details and requests. However, the promise of a new wheelchair did not materialise and as a result, the participant was without a wheelchair for three months. During this period he had to crawl to the toilet, which is situated outside the house, including when it was raining. Such a situation compromises the dignity of a person.

Another personal cost was expressed by one participant and their primary caregiver. During the interview, both the participant and the participant's caregiver reflected on her wishes for the participant to recover full or partial mobility functioning because the responsibility of caring for the participant was becoming a burden in terms of the assistance required by the participant. Regarding the functioning of the participant, while she was able to assist the caregiver with bathing herself and could change her own incontinence products, she was unable to walk and needed to be lifted up from bed to chair. As a result, this participant lived between two homes, that of her mother and that of her caregiver, so as to distribute the care burden.

> *When I wake up, Sisi (respectful term for older sister) lifts me up… I wake up and bathe. When I'm done, Sisi puts me on this chair to watch TV and then eat till evening. When it's time to sleep, Sisi lifts me up again and puts me in bed. She does everything for me. (Female, 27y, HF2)*
>
> *I just wish she could recover and get back to how she was because this is a burden. (caregiver of Female, 27y, HF2)*

Barriers to rehabilitation services were not simply inconveniences to the participants. As a result, participants and groups generated solutions to overcome the barriers in OR Tambo district.

However, the barriers themselves had consequences which were borne by participants and their families. These findings show that barriers may actually predispose individuals to financial, health and personal harms.

7.4 Discussion

The findings from this chapter demonstrate that adults with physical disabilities in OR Tambo district experienced both facilitators and barriers when accessing public sector rehabilitation services. Further, both the facilitators and barriers occurred on the demand-side and supply side of the rehabilitation seeking journey. Finally, regarding the barriers experienced, in the face of barriers participants generated solutions to overcome them. However, barriers were not simply inconveniences, but these barriers exposed individuals and their households to harm related to their finances, health and personal dignity, in addition to resulting in delayed access to needed services.

The findings from OR Tambo district support those of other studies in South Africa and other LMICs which have reported that people with disabilities encounter barriers to accessing rehabilitation services (Moodley and Ross, 2015; Bright *et al.*, 2018). This means that people with disabilities continue might not be enjoying the benefits of optimised functioning afforded by rehabilitation services.

7.4.1 Barriers

Several studies have identified barriers to accessing rehabilitation services by people with disabilities in South Africa and other contexts. A set of case studies found that barriers on the supply side, the health system, prevented appropriate access to rehabilitation services by individuals with physical disabilities in rural South Africa (Visagie and Swartz, 2016). Specifically, there was poor identification of rehabilitation needs and referral pathways for obtaining assistive devices, similar to the findings in OR Tambo district.

My findings also align with another South African study exploring experiences of both rehabilitation providers and patients engaged with rehabilitation services, which reported that there was limited accessible transport available to attend rehabilitation appointments (Kumurenzi *et al.*, 2015). However, these studies differed in that one was conducted in an urban area at the health facility in the Western Cape, and the other in a rural area. The presence of transport as a barrier in both studies suggests that the important consideration is where individuals live relative to their health facility, rather than whether the health facility is located in a rural or urban area.

A systematic review including four HICs and one MIC by Mlenzana and colleagues (2013) found that barriers and facilitators to rehabilitation services by individuals with physical disabilities largely to be related to supply-side factors. Barriers included rehabilitation services which did not address needs, limited resources for rehabilitation, and dissatisfaction with care provided by rehabilitation providers. This was similar to the findings in my study which found that equipment unavailability and perceived poor quality of rehabilitation services were barriers to benefitting from rehabilitation services in OR Tambo district. Conversely, facilitators included being treated with respect and dignity by rehabilitation providers and good relationships with rehabilitation providers (Mlenzana *et al.*, 2013). The findings of my study support these findings because being treated with dignity and respect enhanced the quality of rehabilitation services experienced, however, this was only to the degree that this relational treatment was accompanied by the availability of assistive devices and consumables.

A study conducted in Guatemala found that amongst people with disabilities, only 3% received hearing aids, 37% received wheelchairs, 31% received crutches, 48% received walking sticks and 46% received prostheses (Kuper *et al.*, 2018). This limited access to assistive devices aligns with recent estimates of need for rehabilitation services (Cieza *et al.*, 2020), and was also found in OR Tambo district as it relates to mobility assistive devices. Limited availability of assistive devices may be related to production factors as suggested by findings from a study including orthotists and

prosthetists from Tanzania, Malawi and Sierra Leone, which reported that the absence of materials and functioning machines required in the production of orthotics and prosthetics were not available (Magnusson, 2019). The lack of materials and functioning machines could explain why accessing assistive devices such as wheelchairs, orthotics and prosthetics were not readily availability in OR Tambo district. However, this could also be due to the rehabilitation policies having a narrow specification for assistive devices and their funding, as suggested by the findings in chapters four and five. It may also be related to constrained funding procurement systems at the health facility and provincial levels, or the lack of population level data on needs in the district (MacLachlan and Scherer, 2018). Further research should explore the availability of assistive devices depicted as products existing within a whole system rather than as isolated products so as to uncover these operating mechanisms.

The findings in OR Tambo district contrast those of a study of stroke patients in Ghana which found that, of the supply-side factors investigated, none contributed significantly to qualify as barriers to accessing services (Nketia-Kyere *et al.*, 2017). The difference may be that the study included only the attitude of health professionals and availability of equipment while the current study of OR Tambo district also included assistive devices, referral processes, and accessibility of the health facility.

While the studies discussed thus far reported on the supply-side barriers, the study of OR Tambo district found that barriers were also experienced on the demand side. Evidence suggests that people with disabilities are, on average, more likely to be poorer than non-disabled individuals (Mactaggart *et al.*, 2015). Moreover, the financial poverty is not limited to people with disabilities themselves but extends to the household. For instance, findings from the South African Department of Social Development reported that households in which a person with disability was part of, had lower overall household income compared to households which did not include a person with disability (Department of Social Development, 2015a). This link between disability and

poverty was confirmed by Banks and Polack (2013) in their systematic review of studies in LMICs which showed that the presence of disability was associated with the presence of poverty, and that this relationship was statistically significant across ages and disability types. This means that when people with disabilities seek rehabilitation and other healthcare, they are more likely to begin in a position of economic vulnerability. Moreover, the additional health and rehabilitation needs can be a contributor to poverty (Banks, Kuper and Polack, 2017). It is therefore not surprising that Hanass-Hancock and colleagues (2017) found that people with disabilities encounter economic hardship in the form of both direct (OOP) and indirect (opportunity) costs when seeking healthcare, similar to the findings in OR Tambo district. In both Cameroon and India, people with disabilities reported that financial factors were barriers to seeking healthcare (Mactaggart *et al.*, 2015). One study of two rural settings in Cameroon and India found that individuals with disabilities often had to make a choice between their own health needs or the needs of the broader family within the household, and that decision making involved the whole family rather than one individual (Zuurmond *et al.*, 2019). This differed from the findings in OR Tambo district because the findings did not point to individuals needing to make a choice between their own needs and those of the household. Instead, participants seemed to have greater autonomy over their finances, such that they did not need to consult with the household to make these decisions. Even so, the participants in OR Tambo district still had to make the trade-off.

A case-control study including approximately 9000 participants from South Africa, Sudan, Malawi and Namibia found that compared to people without disabilities, people with disabilities more frequently reported transportation and the natural environment as barriers, and that this was more pronounced in rural areas (Visagie *et al.*, 2017), similar to the findings amongst participants in OR Tambo district. Interestingly, in the study by Visagie and colleagues (2017), both individuals with disabilities and matched individuals without disabilities reported experiencing barriers in transport and the natural environment; however, the frequency and intensity of the experience of barriers was higher amongst people with disabilities. This means that the natural environment such as roads

and transportation are able to negatively impact the everyday functioning of all individuals, and that addressing these barriers would benefit not only people with disabilities, but possibly all of society, as has been reported elsewhere (Kuper and Heydt, 2019).

Since transport was a barrier to accessing rehabilitation services, some participants reporting hiring a car from a member of the community; however this was very costly relative to their income. This has been reported in another South African study in which private car hire was reported to cost approximately R500 or more depending on the distance from the health facility (Hanass-Hancock *et al.*, 2017). This finding suggests that inaccessible and scarce transportation, and financial constraints are both barriers which also reinforce each other to make accessing rehabilitation services even more complicated. This cumulative nature of barriers during the health seeking journey has also been identified by Levesque and colleagues (Levesque, Harris and Russell, 2013).

The findings from this chapter also demonstrate that some participants were not aware of the available rehabilitation services or if they were aware of them, they were not aware that these services were relevant to their impairment. Similarly, a quantitative study in Cameroon found that only 8% of people with disabilities were aware of rehabilitation services and only 24% had heard of assistive devices services (International Centre for Evidence in Disability (ICED), 2014; Mactaggart *et al.*, 2015) (International Centre for Evidence in Disability (ICED), 2014). Rehabilitation providers in Tanzania, Malawi, Sierra Leone and Pakistan reported that there was a low awareness of rehabilitation services such as orthotics and prosthetics amongst the general population, and that this was worse in rural areas (Magnusson, 2019). According to the study by Magnusson (2019), it was both the limited availability of rehabilitation providers in rural areas and the lack of referral to rehabilitation services by healthcare providers which were contributing to this lack of awareness amongst the general population. Interestingly, participants in OR Tambo district did not explicitly mention the number of available rehabilitation providers as a barrier to rehabilitation services, despite the findings in chapter six pointing to shortages in the types of rehabilitation providers in

the district. However, this does not mean that availability of rehabilitation providers was not contributing to the reduced access of rehabilitation services. The participants might not have explicitly mentioned the rehabilitation workforce numbers as a barrier. However, it is likely that their experience of barriers related to consumables and assistive devices might also be connected with the availability of rehabilitation providers who can participate in the procurement of such items in the health facilities. Since this study did not examine this connection explicitly, further research should explore whether the population perceives shortages in the rehabilitation workforce, and what the impact of this is.

Other authors have also gone beyond the identification of barriers to explore the mechanisms of how multiple barriers interact. For instance, in a meta-synthesis of qualitative studies in LMICs, Hashemi and colleagues (2020) argue that there are demand side and supply side barriers which people with disabilities experience and that these barriers interact with each other in a dynamic and complex system. My study also demonstrated that barriers do not operate in isolation. For example, the barriers of transport, finances and road conditions were all inter-related. Another study reported on the intersection between gender and disability, such that female and disabled individuals had to first consult with male relatives in making the decision to seek healthcare (Zuurmond *et al.*, 2019). In another study, the interaction of gender and disability as barriers persisted and prevented access to healthcare even when services were free at the point of care in health facilities (Kabia *et al.*, 2018). However, this interaction between gender and disability was not something that I explicitly examined and so was not apparent in the participants' responses.

Going beyond simply identifying separate barriers is important for more effective interventions which take note of contextually situated systems and offer relevant solutions for overcoming barriers. This is relevant because addressing one barrier, such as finances for rehabilitation appointments only, as proposed by South Africa's UHC plan, might not actually improve access if other demand-side barriers such as inaccessible transport and poor road conditions exist. Similarly,

conducting training on professionalism amongst healthcare workers to improve interactions with patients in the absence of providing assistive devices will not meaningfully address rehabilitation needs.

Not only are the barriers related and reinforcing but they can actually cause harm. It has been described in other health contexts how stigma barriers predispose disabled women to harm during birth by withholding quality care (Ganle *et al.*, 2016). Or how a combination of financial constraints, stigma and limited social support prevent people with disabilities in rural South Africa from accessing identity documents which are the gateway to accessing government social benefits and thus further exacerbating financial constraints (Neille and Penn, 2017). Focussing on HIV and sexual health services in Uganda, Nampewo argues that despite the evidence suggesting that women with disabilities are at higher risk of sexual violence and contracting HIV compared to women without disabilities, women with disabilities are excluded from HIV and sexual health services in Uganda (Nampewo, 2017). This exclusion is reported to be due to the long distances to health facilities due to limited numbers of facilities available, and the inaccessible architecture of health facilities, including inaccessible toilets. Barriers such as unwillingness to transport wheelchairs, intolerance of and discomfort with impairments by community members or a lack of an identity document, impede access to epilepsy medications, thus resulting in uncontrolled seizures which lead to worsening intellectual and physical impairment (Grut *et al.*, 2012). A study reported reduced access to TB services for people with disabilities in rural Malawi at multiple stages including health seeking, engaging with services, receiving a TB diagnosis and successful completion of treatment (Grut *et al.*, 2015), suggesting an increased risk of TB-related morbidity and mortality. The collective studies resonate with the findings from my study which suggest that barriers themselves or attempts to overcome them predispose individuals to financial, health and personal harms.

Banks and Polack (2013) argue that when people with disabilities are excluded in health services, this leads to poorer health outcomes. This exclusion may be related to the fact that disability-

specific services are under-prioritised when setting health priorities. In my study of OR Tambo district, the poorer health outcomes were exemplified as reduced function such as prolonged immobility which leads to further deconditioning of the musculature and increases the risk of pressure sores. A study in South Africa found that when people with disabilities, especially in rural areas, could not afford the continued maintenance of assistive devices out-of-pocket, they would opt for inappropriate or inferior alternatives which could be harmful to their health by causing secondary complications (Hanass-Hancock *et al.*, 2017), something which was also found in my study. A study of stroke survivors in a peri-urban area of South Africa reported that a loss of autonomy was accompanied by a sense of loss related to the participants' enactments of their social roles (Govender *et al.*, 2019). Social role enactment relates to how someone perceives their personhood in relation to others as well as their sense of dignity within these significant relationships. Similarly, in a study amongst adults with spinal cord injuries, cerebral palsy and multiple sclerosis in the USA, participants reported that not being referred for appropriate rehabilitation services restricted their ability to contribute socially leaving them with a sense of being idle (Neri and Kroll, 2003). Thus, the common thread in these studies support the findings in the current study which suggest that barriers to rehabilitation services are not simply inconveniences but that they actually cause harm to people's finances, their health and their dignity. Further, these harms not only have current consequences but they likely have future ones for the individual and their households (Banks and Polack, 2013)

7.4.2 Facilitators

Most of the literature relating to rehabilitation access has explored barriers. As such, there is limited research on facilitators from the perspectives of people with disabilities. Where research on facilitators is available it reports largely on relationships with people such as relatives, community members or rehabilitation providers, as bases of support. For instance, in a study exploring access to prosthetic rehabilitation services in South Africa, family support from relatives who had cars enabled individuals to attend their appointments and to assist with daily activities

(Naidoo and Ennion, 2019). This is similar to my findings in which community members with their own vehicles facilitated access to rehabilitation services. Members of the household have also been reported to provide extra assistance on the journey to the health facility (Zuurmond *et al.*, 2019). Similarly, support from family, neighbours and friends in the form of well wishes, prayers, communion and home visits was cited by people with disabilities as something which personally motivated the participants (Govender *et al.*, 2019). This is similar to the findings in the current study since people with physical disabilities in OR Tambo reported that such social support enabled access to their rehabilitation appointments. Evidence from Peru suggests that the support from caregivers is commonly from family members rather than professional carers (Bernabe-Ortiz *et al.*, 2016). While it may be more convenient to have a relative to provide the caregiving role compared to employing a professional, there are challenges. Support from relatives as caregivers, as found in two instances in my study, can be complicated because of caregivers feeling burdened or because of individuals feeling suffocated by caregivers.

Studies also point to the broader community or societal structures facilitating access to rehabilitation services amongst people with disabilities. For instance, membership in an NGO which worked to increase awareness to rehabilitation services as well as the presence of savings clubs helped to cover costs related to accessing services in Cameroon (Zuurmond *et al.*, 2019). In one area of OR Tambo, HF2 area, the presence of an NGO specifically enabled individuals to travel to a neighbouring province to access assistive devices. In South Africa, adults with disabilities are entitled to apply for a disability grants, which are social security grants which aim to provide income to those who pass a means test and whose disability is clinically established (Department of Social Development, 2015a). In the current study, people with physical disabilities in OR Tambo district reported that access to a disability grant facilitated access to rehabilitation services because it allowed them to pay for transport costs to the health facility. In fact, rehabilitation appointments were often scheduled around paydays. The reason that disability grants were facilitators was because they were a set source of income so individuals could plan accordingly. However, people

with disabilities in another study reported that the disability grant amount was insufficient when other costs and commitments were considered (Cawood and Visagie, 2015). This difference regarding the usefulness of the disability grant likely relates to the personal circumstances of each individual's needs and resources.

The literature has also reported on rehabilitation providers' therapeutic relationships with people as facilitators to benefitting from rehabilitation services by motivating individuals on their recovery journeys, being respectful and empathic, and being knowledgeable (Mlenzana *et al.*, 2013; Kumurenzi *et al.*, 2015; Naidoo and Ennion, 2019). This supports the findings of the current study in that the rehabilitation providers in the included health facilities were described as caring and respectful. Another study reported on both the provider and the systems in which rehabilitation providers worked. A UK study of individuals who had undergone amputation after a sarcoma diagnosis reported that individuals who accessed limb-fitting services on the same site as the treatment for the sarcoma reported higher levels of comfort with their limb, more satisfaction with the time it took to repair prostheses and more satisfaction with the rehab providers treatment plans. These experiences suggest that integrated services facilitate access to rehabilitation services by promoting greater continuity of care for individuals (Furtado *et al.*, 2017). This perhaps explains why individuals in OR Tambo district noted that being admitted into hospital was an enabler to accessing rehabilitation services since the barriers of travel and finances were suspended.

While the literature on facilitators to rehabilitation services has focused largely on people and relationships (relatives, community members and rehabilitation providers), most of which originate on the demand-side, in my study, people with physical disabilities also identified several facilitators inside the health facility such as the availability of assistive devices, accessibility of health facilities including language and communication considerations. This difference in emphasis may be that facilitators on the supply side tend to be assumed. For example, it is assumed that there will be

assistive devices in a health facility, or that individuals who are admitted into hospital will receive rehabilitation services.

Self-advocacy as a way to fight for one's rehabilitation rights was reported in OR Tambo district but not in the literature. This difference may be related to different expressions of self-advocacy in various contexts which might not have been easy to identify in another research context, or it may be that that as long as an individual made it to the health facility, they would likely receive care. This is an area which merits further research because the findings of my study suggest this to be an important factor when accessing rehabilitation services. Further research should assess the nature, role and mechanisms of self-advocacy in accessing rehabilitation services.

7.4.3 Universal Health Coverage and Access

Despite the presence of facilitators, barriers dominated with regards to access to rehabilitation services in OR Tambo district. Since barriers to rehabilitation are multiple, and occur on the demand side and supply side, interventions addressing access must target factors both inside and outside the health system. If South Africa's UHC plan is solely about making services free at the point of care, most of the barriers inside and outside the health system will remain unaddressed. This means that rehabilitation needs amongst people with physical disabilities in OR Tambo district will persist.

Of course, since UHC is in the remit of factors related to the supply side, other sectors (private included) and government departments (such as the Department for Transport, Department of Social Development and Department of Human Settlements) must collaborate to wholly address the barriers on the demand side. This is relevant since findings from the current study suggest that it may not be the user fees themselves which are a major driver of the risk of catastrophic expenditure, but instead costs of transportation to attend appointments and out of pocket costs for the purchase and maintenance of assistive devices, within already economically vulnerable households.

Therefore, where UHC is concerned and barriers on the supply side occur, UHC should rightly make services free at the point of care. However, only making services free at the point of care will not necessarily result in access. For example, in Kenya despite health services being free at the point of care as a result of pro-poor health financing policies, women with disabilities still reported not accessing health services in order to rather earn a living and care for the household (Kabia *et al.*, 2018). Similarly, another study in Afghanistan found that a 15-year period of efforts towards UHC did not show improvements in access for people with disabilities (Trani *et al.*, 2017). Instead, the perceived availability of care and perceived coverage of care worsened between 2005 and 2013 despite the provision of free primary health-care level services. In Ghana, authors found that individuals who lived further away from health facilities had lower reductions in risk of catastrophic health expenditure compared to those closer to health facilities, despite the presence of a UHC scheme in place (Fiestas Navarrete *et al.*, 2019). One reason for this lack of health benefit is that there are currently no SDG 3 indicators which monitor UHC progress amongst people with disabilities (Kuper and Heydt, 2019). The studies discussed here by design measure health access and improvements amongst people with disabilities retrospectively thus emphasising the omission of disability-specific health indicators in the health-related SDGs.

This means therefore that South Africa's UHC plan must also ensure that assistive devices, equipment and consumables are available in health facilities, and that health facilities are fully accessible. While people with disabilities in this study did not say that there need to be more trained rehabilitation providers in the health facilities, both equipment and assistive devices need to be administered and prescribed by trained rehabilitation providers. Therefore, the quantity and their distribution (relating to the delivery of outreach services) will also need to be addressed. Occupational therapists, physiotherapists, audiologists and speech and language therapists are all trained to assess and provide assistive devices which meet the needs of users. Therefore, assistive devices and equipment provision is incomplete without the rehabilitation providers.

In the current study, two participants had prosthetic limbs; however, these had been received in other districts or provinces. This may be explained by the low availability (0.09 per 10 000 population) of orthotists and prosthetists in South Africa, and their unequal distribution favouring urban provinces, including Kwa-Zulu Natal (Mduzana *et al.*, 2020). In fact, it has been argued that the benefits of UHC within countries cannot be fully realised unless people with disabilities are directly addressed because addressing the health needs of people with disabilities has both individual and societal consequences (Kuper and Hanefeld, 2018; Kuper *et al.*, 2018).

Since UHC is a financing mechanism, describing how funds are pooled and organised to strategically purchase health services including rehabilitation services for the population, it does not dictate which services should be purchased and which populations should be covered.

Having discussed both the barriers and facilitators in OR Tambo district we can now say that they operate as *conversion factors*, that is factors that affect the ability of people with physical disabilities in OR Tambo benefitting from rehabilitation services. Specifically, barriers prevent rehabilitation services at health facilities from being engaged with by people with disabilities, while the facilitators enable people with disabilities to benefit from rehabilitation. Therefore, barriers work to prevent people with disabilities doing the things and being the beings that they desire to do and be, such as returning to employment, participating in household care taking and maintaining relationships with other members of the community, as seen in the current study. In other words, and drawing from the human development model of disability, health and wellbeing, the *conversion factors* (barriers and facilitators) dictate the extent to which people with physical disabilities in OR Tambo district can convert the rehabilitation services in health facilities into *capabilities* and *functionings* in their everyday lives (Mitra, 2018). A more detailed discussion of *conversion factors* and their place within this thesis' conceptual framework, Amartya Sen's capability framework, will now follow in chapter 8.

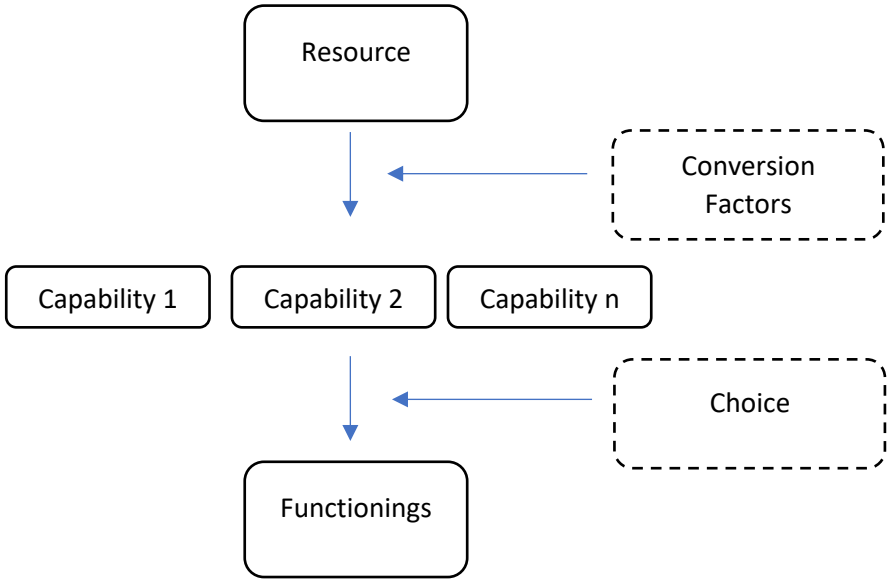
Chapter 8: Integrated Discussion- The Capability Framework and Rehabilitation Services

8.1 Introduction

This chapter now integrates my findings, using Amartya Sen's Capability approach as introduced in the background chapter, accounting for rehabilitation policies, rehabilitation service capacity, and perspectives of users of the services. In so doing, I address my overall research aim to inform the implementation of South Africa's UHC plan, with respect to rehabilitation services. My findings suggest that South Africa's UHC plan in its current form is unlikely to achieve its stated aim of increasing access to rehabilitation services for people with disabilities in OR Tambo district. I explain why through an expanded Capability Approach framework. I first discuss current applications of the capability framework to disability and rehabilitation services. I then make a theoretical contribution by expanding Sen's capability framework based on the empirical findings of my research. Lastly, I demonstrate how I addressed the research questions that I posed.

Amartya Sen's Capability Approach was developed to explain why development interventions were not achieving their intended outcomes (Sen 1985 in Mitra, 2006). The components of the Capability Approach (figure 8.1) include the *resource* which is provided in an intervention; the *capability set* which relates to the range of possibilities that individuals have the opportunity to access as a result of the resource; and the *achieved functionings* which represent the choice that individuals make from amongst the *capability set*. Additionally, the Capability Approach also includes *conversion factors* which are factors that influence whether and how individuals access the resource in its intended form; and *choice* which emphasises the agency of individuals.

Figure 8.1: Amartya Sen's Capability Approach



Rationale for the Capability Approach

In the South African context, published rehabilitation policy documents are available however much of the literature on rehabilitation in South Africa and the findings from chapter seven report on high barriers to accessing rehabilitation services. This suggests that despite the presence of rehabilitation policies and the provision of rehabilitation services in the public sector by the department of health, populations are likely not achieving the desired outcomes of the policies. However, to date, the mechanisms depicting how various barriers on the supply- and demand- side operate to prevent access have not been well described. Therefore, the Capability Approach offers the opportunity to examine both the supply and access sides simultaneously whilst illuminating what the interactions between the two are.

Moreover, the Capability Approach emphasises the role of the agency of individuals in how and whether they access the resource. This is significant because it acknowledges that the provision of a resource and its resultant outcomes are impacted by both the provider of the resource and the beneficiary of the resource. This means that interventions that seek to address access to resources

such as rehabilitation services must span multiple levels and outcomes in order to practically improve access for populations.

However, the assumption inherent in the Capability Approach is that the resource itself is adequate or complete. However, in this thesis, I opted to examine whether this really was the case. Therefore, I examined the resource itself, rehabilitation services, by assessing the health facilities' accessibility, rehabilitation consumables, equipment and assistive devices, and the workforce. By examining the resource, this enabled me to determine how factors on the supply-side were also contributing to the outcomes as reported by users of the service. The Capability Approach was therefore a suitable framework for this thesis. In this thesis, "supply" refers to the provision of rehabilitation services by the Department of Health and includes both the policy processes that inform its provision and the rehabilitation service components themselves. Further, "demand" in this thesis refers to those who express a desire to engage with rehabilitation services.

8.2 Applications of the Capability Approach to Rehabilitation and Disability

Amartya Sen's Capability Approach

According to Sen's Capability Approach, the ability of individuals to derive value from provided resources is influenced by *conversion factors* and the agency that individuals exercise through the choices that they make (Sen 1985 in Mitra, 2006). Conversion factors may be external to individuals such as physical, social, cultural, environmental, political or economic factors. Conversion factors may also be internal to individuals such as their age, gender, comorbidities and impairments. These conversion factors matter because they affect how resources may be translated into a number of capabilities from which individuals may then choose (Robeyns, 2000). For example, a bicycle (resource) will be of little use for travelling in an individual who has no functioning of their legs (internal factors). Similarly, a bicycle will be of no use for travel if the road conditions are bad (external factors). In the context of OR Tambo district, Sen's Capability Approach offers an insightful perspective into the role of supply-side and demand-side factors in the rehabilitation journey, with

people with physical disabilities as the focal point. Specifically, the Capability Approach allows us to better understand how the implementation gaps relative to South Africa's rehabilitation policies and the barriers and facilitators interact and influence the extent to which individuals can truly enjoy the benefits of rehabilitation services. Therefore, the findings relate not only to the individual experiences of participants but also the activities and systems of OR Tambo district, thus providing potential opportunities for change for both individuals and the health system.

Regarding choice, Sen's Capability Approach asserts that individuals exercise their own agency in shaping their own future by deciding which among the number of available capabilities align with the kinds of lives that they want to live (Sen, 2001). For example, in examining why food packages may not solve famine, Sen's Capability Approach explains this by positing that the translation of food aid (the resource) to alleviating famine (the desired outcome) depends on factors such as social norms, cultural practices, physical barriers, indirect financial influences, environmental conditions, governance, and corruption (the conversion factors). These conversion factors then influence the set of possibilities (capabilities) from which individuals may choose. Similar to conversion factors, this choice is also influenced by a range of factors such as social relationships, such that individuals in the same community and with similar resources may make different choices with different outcomes. The resulting capabilities selected by individuals constitute their achieved *functionings*.

The Capability Approach therefore is concerned with the extent of freedom individuals are afforded in order to pursue and shape the kinds of lives that they desire (Alkire, 2008). Specifically, it recognises that these freedoms may either be enhanced or restricted by internal and external factors relevant to the individual. In other words, and in relation to the context of OR Tambo district, what is the extent of freedom that people with disabilities can practically enjoy when engaging with the existing rehabilitation services? As explored in previous chapters, this question matters because evidence suggests people with disabilities, especially in rural areas, have low

access to rehabilitation services despite potentially benefitting from these services. Since the goal of rehabilitation services is to improve the functioning of individuals and reduce disability, the question of the freedoms of people with disabilities becomes especially pertinent.

Capability Approach, Disability, and Rehabilitation

While the Capability Approach was developed to explain the unintended outcomes of development interventions, it has since been expanded to other fields, including disability and rehabilitation. The Capability Approach has informed conceptualisations of disability (Mitra, 2006; Bickenbach, 2014). However, conceptualisations of disability continue to be challenged by differing issues related to the measurement of disability (Schneider *et al.*, 2009; Mactaggart *et al.*, 2016). Meanwhile scholars have also raised concerns about the operationalizability of the capability approach in measuring improvements relative to policy goals (Robeyns, 2000). Combined, these issues of measurement and operationalizability of disability definitions and the capability approach do make employing the framework challenging. Even so, the capability approach has been used relating to people with disabilities to explore quality of life and access to health services across a variety of income settings (Tellez *et al.*, 2016; J. F. Trani *et al.*, 2017; Trani *et al.*, 2018; Anand *et al.*, 2020).

Studies have also used the capability approach to inform the development of data collection tools. For example, the capability approach has informed the development of a multi-dimensional measure to examine wellbeing amongst adults over 60 years in US (Mitra, Brucker and Jajtner, 2020). Similarly, Trani and colleagues (2011) used the capability approach to inform the development of a semi-structured survey tool which examines which activities at the individual, household community and state levels individuals might value by applying a five-point rating scale, with the intention of informing public policies. Each of the data collection tools collects information that is relevant to a particular community to inform efforts towards improvement. There is no perfect application of the capability approach as it relates to the development of tools since this will be driven by the purpose of the investigation. The variety of data collection tools based on the

capability approach point to the versatility of the framework by examining the lives of individuals to derive insights about both individuals and the wider societal structures.

The capability approach has also been used to examine access to general health services. In a study of disabled individuals in rural South Africa, Sherry (2016) argued that the presence of a disability was a conversion factor alongside rural residence and poverty which constrained healthcare seeking at the primary healthcare level. Both my study and that of Sherry (2016) demonstrate how multiple factors may interact and reinforce each other to result in barriers when seeking healthcare. Another study in France found that being older and being female increased the likelihood of accessing primary healthcare services (Bussière, Sicsic and Pelletier-Fleury, 2016). Again, the combination of these internal characteristics resulted in altered patterns of healthcare seeking. The capability approach therefore provides the opportunity to not only identify which conversion factors are operating but also how these conversion factors interact to either enhance or constrain healthcare seeking patterns amongst individuals.

The capability approach has also been used to explore how the use of assistive technologies increases the available capabilities from which users can make a choice. For example, a study in Bangladesh demonstrated that users of hearing aids and wheelchairs scored higher than those with impairments but without these assistive devices in areas such as relationships with others, self-determination, access to education and access to health care (Borg *et al.*, 2012). However, the authors did not specify how the capability approach informed their data collection and analysis. Similarly, others have developed a framework for research and practice to aid experts' theoretical discussions on how assistive technology may improve the capability set of individuals with dementia by promoting independence in daily activities, supporting their overall health, and promoting their safety (Kenigsberg *et al.*, 2019).

Drawing from these studies, we can see that Sen's Capability Approach has advanced conceptualisations of disability, informed the development of data collection tools, improved

understanding of factors which affect access to services, and argued for assistive technology. However, each of these studies have only focused on discreet elements of the capability approach and thus forgoing the analysis of the interactions between components and their cumulative effects. My study therefore addresses the fragmented application by combining the elements of Sen's capability approach in a single case study of rehabilitation services in OR Tambo district.

8.3 Expanding the Capability Framework

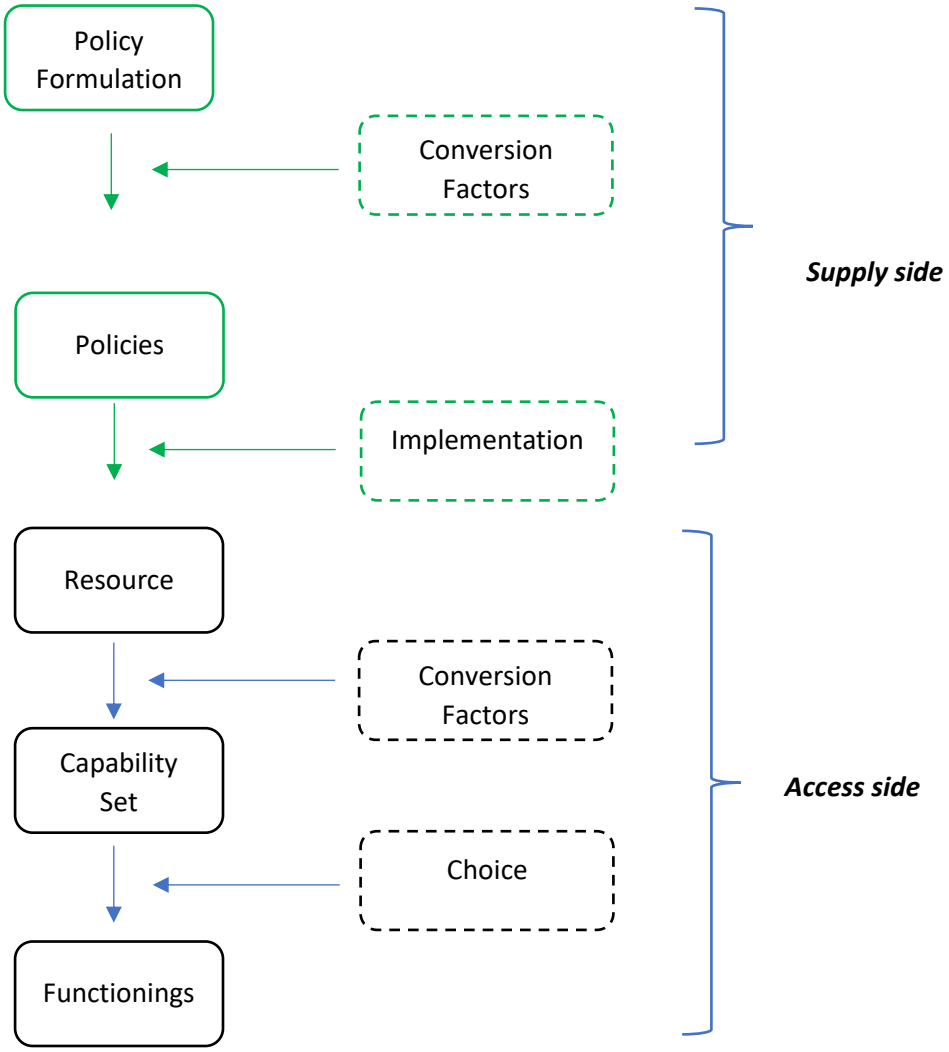
Sen's capability approach framework focusses on what happens between the provision of resources and outcomes of value, that is, the bottom parts of the framework. However, this same framework can be mirrored upward to examine factors contributing to the resource, that is, the upper parts of the framework (figure 8.2). By doing this, we can see that the bottom parts of the framework relate to the demand- side while the upper parts of the framework relate to the supply-side.

In Sen's capability framework, conversions occur between the resource and capability set, but also, arguably, between the capability set and achieved functionings. If these translations are mirrored upwards, we can also look at conversions from policies to resource, and from policy formulation to policies. The conversion from policy to resource may explain the implementation gaps found in the available rehabilitation services in OR Tambo district. Similarly, the conversions from policy formulation to policy may explain the gaps in rehabilitation policies in South Africa. While the current research examined the rehabilitation policies and related gaps, it did not examine the policy formulation; therefore, further research on the rehabilitation policy formulation process in South Africa is required.

Moreover, since each of the elements of the capability framework are interlinked, the conversions on both the supply- and demand-sides have a cumulative effect which results in a diminishing set of opportunities and diminished benefit. For instance, the impact of the implementation factors between the policies and resource results in resources which are either complete or incomplete.

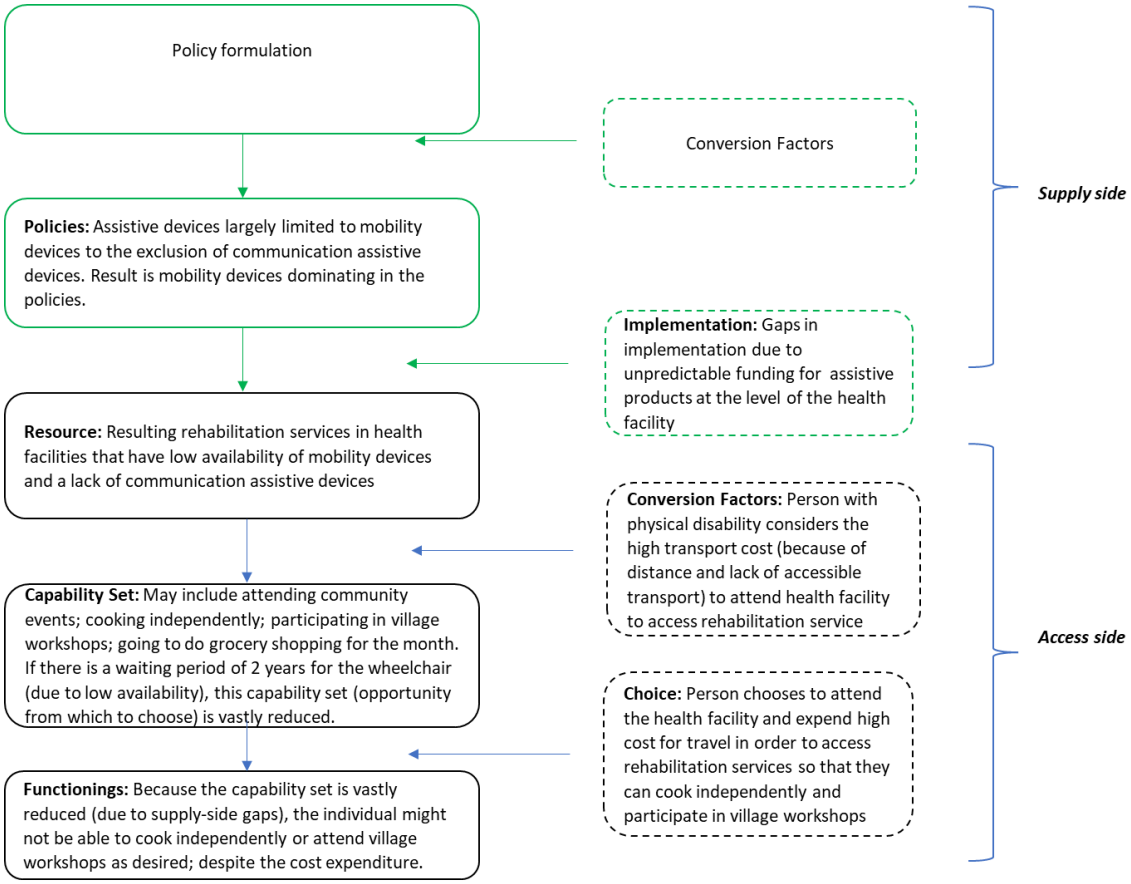
Then the conversion factors influence these same resources, whether they are complete or incomplete, to result in capabilities. Now, if the policy implementation process has gaps, the resulting resource will also be incomplete relative to intended goals. This then means that the resultant capabilities from which individuals can choose are fewer in number because of constraints in the preceding upper parts of the framework. Given that the supply-side presents with gaps, and barriers dominate the demand-side in OR Tambo district, the effect is that the capability set is immediately reduced even before people can make choices. And when they do make choices, they do so from a very constrained capability set. Within the context of OR Tambo district, this means that it is the combined translations at each step of the framework and their cumulative effect which may explain why the desired outcomes of rehabilitation services are not meaningfully achieved by people with disabilities.

Figure 8.2: Expanded Capability Framework



An example of how this expanded Capability Framework might explain the interactions between the various components is depicted in figure 8.3.

Figure 8.3: Practical example of the use of the expanded Capability Framework



My study does not assume that the resource is adequate but investigates what comprises the resource by examining rehabilitation service capacity, and how the resource comes to be by examining rehabilitation policies. Consequently, in addition to gaps in access, I identify gaps in both the rehabilitation services available and the policies which support their implementation. My study further demonstrates that barriers (as conversion factors that compromise the ability to translate resources into the capability set) can also contribute harm. Even in the few instances when individuals exercised their agency and developed strategies to overcome barriers, this presented individuals with trade-offs which resulted in financial or social costs. Thus the findings of my study support those that argue that the capability approach needs to span multiple outcomes to account for the diversity of individuals' goals as argued in the literature (Robeyns, 2005; Alkire, 2008).

This means that available rehabilitation services will be insufficient if the policies themselves have gaps and if the implementation of these policies is constrained. Insufficient resources will result in limited capabilities available and constrained choices amongst people with disabilities. Therefore, applying the expanded capability framework, South Africa's UHC plan must go beyond being a financing mechanism and simultaneously prioritise addressing the rehabilitation policy gaps, the implementation of the updated rehabilitation policies, and the health system related barriers to access. Additionally, other government departments should also work to actively address the barriers which extend beyond the health system such as roads, transport, and financial considerations. Addressing only one of these will be addressing only a discreet element and will fail to produce the intended goals of decreasing disability and improving function amongst individuals with disabilities in OR Tambo district. Instead, unintended policy outcomes, such as placing individuals further into economic vulnerability through transportation costs or predisposing individuals to secondary health conditions, may arise as described in my findings. In other words, people with disabilities in OR Tambo are unlikely to enjoy reduced disability and optimised functioning from rehabilitation services. Instead, impairments which could be addressed through rehabilitation are likely to persist, resulting in further disability and reduced function.

The added value of applying and expanding the capability approach therefore enables us to address why it is that unmet needs persist even in the presence of rehabilitation policies and rehabilitation services. My research has addressed this by demonstrating that unmet needs for rehabilitation services in OR Tambo district are the result of implementation gaps in rehabilitation policy and the prevailing barriers to access.

Chapter 9: Conclusion

In this final chapter, I outline how I addressed the research questions. I then describe the recommendations arising from my work. This is followed by a discussion of the strengths and limitations of my study. I then conclude with future directions required to further inform the implementation of South Africa's UHC plan as it relates to rehabilitation services.

This research aimed to address the following four research questions:

1. What do South Africa's national and sub-national policies dictate with regards to the provision of rehabilitation services and what are the gaps?
2. What do the existing rehabilitation services tell us about the implementation gap between rehabilitation policies and services at the health facility level in OR Tambo district?
3. Why is there an implementation gap between what South Africa's policies dictate and the available rehabilitation services at the level of the health facility in OR Tambo district?
4. What are the barriers and facilitators to accessing rehabilitation services by people with physical disabilities?

By drawing from the findings of the policy review conducted to address research question one, the findings reported that a marked implementation gap exists between South Africa's rehabilitation policies and the available rehabilitation services at the level of the health facility in OR Tambo district. This implementation gap was observable in the domains of health facilities' rehabilitation department accessibility, availability of assistive devices, consumables and equipment, and availability of rehabilitation providers. There were several factors which contributed to this implementation gap. Findings from research question three revealed that from the perspectives of rehabilitation managers in health facilities, these factors related to both the hardware and software system components, with the constrained power of rehabilitation managers as a central theme. Finally, having examined the supply-side of rehabilitation services in OR Tambo district, an exploration of the demand-side from the perspectives of people with physical disabilities revealed

multiple barriers to access. Findings from research question four reported that barriers to accessing rehabilitation services in OR Tambo district occurred on both the supply-side and the demand side. Supply-side barriers corroborated the relevant findings from research question two, and were related to referral pathways, accessibility of health facilities, equipment availability and quality of services. Major barriers on the demand-side were related to finances, transport and road conditions and limited awareness of rehabilitation services. These barriers were not simply inconveniences, but they predisposed individuals to financial, health and personal harm. Finally, by applying and expanding the capability framework, I demonstrated the connections between rehabilitation policies, rehabilitation service capacity and optimised function as an outcome. Specifically, I showed that mirroring the framework upwards revealed additional conversions which contributed to the content of the resource, namely rehabilitation services.

9.1 Strengths and Limitations

My research had various strengths and limitations. Overall, my study was strengthened by the combination of quantitative and qualitative methods, which allowed me to explore explanations for my observations. My review of South Africa's rehabilitation policies provided a systematic and comprehensive examination of the policy landscape spanning 1994 to 2019. By taking both a historic and present assessment, this enabled me to consolidate the full policy landscape which would not have been possible had I examined the most recent policy alone. Moreover, combining an electronic search of policies with a consultation of key stakeholders ensured that the included policies were exhaustive. This laid the foundation for examining rehabilitation service capacity in health facilities in OR Tambo district. Another key strength was that all nine district hospitals in OR Tambo district were included in the study; therefore, the rehabilitation service capacity findings are representative of all the district hospitals. I conducted the health facility assessment with a knowledgeable rehabilitation provider present in each health facility in order to ensure that I collected all the relevant data. Regarding the rehabilitation workforce, there was a high response rate of 80% which means that the key findings from the questionnaire represent the experiences

of the rehabilitation providers in the health facilities. I also followed up on the findings in the health facility assessment and provider questionnaires by conducting interviews with rehabilitation managers. I drew from theory to explain how various factors led to the implementation gaps observed, from the perspectives of the rehabilitation managers. Finally, I examined both the supply-side and demand-side of rehabilitation services. This allowed for a more nuanced assessment which accounted for the interactions between supply-side and demand-side factors as they relate to rehabilitation care seeking in OR Tambo district. A systems perspective situated within the capability framework provided a more comprehensive and theory driven assessment of rehabilitation services in OR Tambo district.

Even so, my study also had limitations. Regarding the assessment of the implementation gap, the gap observed between rehabilitation policies and available services may have been due to a time lag. However, many concepts in the policies across the period were recurring suggesting that several opportunities for implementation existed. Even so, it is likely that what appears to be an implementation gap is a time lag especially for the most recent policies. Another limitation was that the health facility assessment described the rehabilitation readiness, but this was not an indication of the quality of services that were provided in practice. However, since the literature on rehabilitation service capacity is scarce, assessing service capacity is an important first step upon which processes and outcomes of rehabilitation care might be examined. Relatedly, a limitation of this study is that the health facility assessment tool and the accessibility audit tool have both not yet been validated in other studies and for use in the South African context. This means that there are likely important aspects related to accessibility, equipment, assistive devices, consumables and the rehabilitation workforce which were excluded from the assessment. Alternatively, some of the items included in the assessment might not be considered critical for rehabilitation service delivery across health facility population needs. As such the exact proportions should be interpreted with caution. The rehabilitation provider questionnaire had two limitations. First, I did not pilot it and it had not been validated. Secondly, the paper-based design meant that there were no in-built

consistency checks to limit missing data. The result of this is that there were two questions related to the values of the rehabilitation department[2] and areas which could improve in the process of recruitment[3] which several participants did not complete. For the former, five participants and for the latter, eight participants did not provide an answer and neither did they state "n/a" as stated in the instructions. As a result, the responses for these two questions were excluded from the analysis.

In conducting the accessibility audit as an individual without disabilities, this may have introduced bias in the findings of accessibility in health facilities. This is because a person with disabilities is likely better attuned to aspects of accessibility whereas I might have overlooked some aspects. In order to mitigate this, I ensured that I carefully followed the procedures stipulated by Sightsavers in their audit pack and documented everything. By focussing on the rehabilitation managers only and not the other health facility managers who were actually involved in the priority setting and resources allocation processes, my findings do not describe the actual processes as they take place in the health facility. Therefore, the findings should be interpreted as relating to the reported experiences of rehabilitation managers and not necessary how these processes take place.

In terms of the findings on user perspectives, only people with physical disabilities were included for pragmatic reasons. Therefore, the barriers and facilitators to access may be different amongst those with other types of disabilities. However, there are likely to be many similarities in transport, roads, financial considerations, availability of assistive devices and referral patterns, accessibility of health facilities and language, albeit that the details may differ between different disabilities. Moreover, since the use of assistive devices amongst the participants was high, it is likely that there were people with disabilities were excluded because their location was too remote to travel to or because they are not known to the community and thus not identified during snowballing.

[2] This was question 25 under the section on Productivity and Performance and read, "In your own words, what values would you say underpin your work in providing rehabilitation services in your health facility?".
[3] This was question 16 under the section on Recruitment and read, "Please describe what could have improved the recruitment process. If not applicable, move to the next question".

Therefore, more severe barriers are potentially operating amongst the most remote and isolated individuals. Finally, this research is a case study of one district, OR Tambo therefore the findings may not be generalisable to the rest of the Eastern Cape province or the country. Even so these finding may provide both methodological and experiential lessons which may inform service delivery and research of rehabilitation services in other districts.

9.2 Recommendations

Policy and Service Delivery

Considering the findings of this thesis, I now propose recommendations for policy, service delivery and research. For each recommendation I specify whether it is a short-, medium- or long-term priority; and who the responsible authority might be.

Short-term Priorities

The following are actions which I recommend being prioritised for the short term:

In order to improve rehabilitation service capacity in health facilities, additional funding should be allocated by the provincial administrative authority to procure rehabilitation consumables, assistive devices, and equipment in district hospitals. Particular focus should be paid to the speech and language therapy services in this regard; however, all types of rehabilitation services in OR Tambo district would benefit from additional funding.

- Relatedly, it would strengthen the health facility-level priority setting and resource allocation processes to include rehabilitation providers in the discussions and negotiations. This would ensure that resulting budgets account for and respond to the needs for rehabilitation services presenting at the health facilities. Moreover, this would begin to address the long waiting times for assistive devices.
- It would be important for forthcoming policy documents published at the various administrative levels of the health system to specify how rehabilitation services are intended to be governed and led at national, provincial and district levels. Doing so will demonstrate the department of health's commitment to strategically planning and providing quality rehabilitation services in accordance with the overall goal to improve the population health profile of the country.
- It would strengthen the policy formulation processes at national and sub-national levels to include rehabilitation providers since they act as the frontline agents of rehabilitation

policy implementation. In so doing, this will ensure that formulated policies are contextualised and therefore aligned with the realities of providing rehabilitation services at the district- and health facility levels.

In order to safeguard the users of rehabilitation services as well as to support rehabilitation providers, the provincial department of health should ensure that no community-service level providers are practising without a senior rehabilitation provider. This recommendation aligns with current efforts to develop a competent and supported health workforce with an optimal mix of professional levels in South Africa's health system as well as professional regulations.

Medium-term Priorities

The following are actions which I recommend being prioritised in the medium term:

One strategy to support the efforts to improve the role of key rehabilitation providers in the priority setting, resource allocation, and management processes at the level of the health facility could be through institutionalising the role of rehabilitation managers in health facilities in the district by formalising their appointments as primarily management roles. These appointments by the provincial department of health would enable greater accountability of the state of the rehabilitation service in each health facility. Moreover, such appointments could be accompanied by the relevant leadership and management training to build the capacity of rehabilitation managers to plan, organise and deliver rehabilitation services.

- The most recent national rehabilitation policy, the Framework and Strategy for Disability and Rehabilitation Services 2015-2020 is due to be updated. This point in time also represents an important opportunity for South Africa to develop its own national list of essential assistive devices. Therefore, updated rehabilitation and assistive device policies should address the narrow specification of current ones by including context-relevant and

priority assistive devices which span all the functional domains of mobility, hearing, communication, vision and self-care.

- Further, the policy formulation process could be enhanced by including people with various disabilities and other users of rehabilitation services, especially those from rural areas, through an extensive and inclusive consultation. This will ensure that the experiences of users of the service are considered in the planning and organisation of rehabilitation services, and it will also support the efficient use of fiscal resources.
- The departments of health, social development and transport, as well as non-government sectors should collaborate to simultaneously address both demand- and supply-side barriers to access in the district. This will prevent duplication of efforts and thus promote responsible stewardship of resources, whilst comprehensively addressing the needs of those who want to engage with rehabilitation and other health services.

Long-term Priorities

The following priorities will require significant investment over time and thus I have recommended them as priorities to be achieved in the long-term:

- To improve the accessibility of health facilities, functioning accessible toilets should be made available near or in rehabilitation departments. Such a financial investment may be considered under the national department of health's *Programme 8* as health facility refurbishment. This will promote the dignity of those with disabilities who attend the health facilities in OR Tambo district.
- Additionally, the infrastructure of dedicated treatment areas for rehabilitation services should be expanded or existing infrastructure should be adapted. This will also help to prepare for additional types of rehabilitation services to be offered in the health facility in the future if they are currently not available.

- Regarding coverage of services in the district, increasing the number of available vehicles to provide rehabilitation outreach services in the catchment area would be beneficial. In particular, the most remote areas should be prioritised first when incrementally increasing the coverage of services. This will facilitate equitable access to services in keeping with universal health coverage efforts in South Africa.
- Relatedly, increasing the number of available rehabilitation providers would be of value so that they can provide rehabilitation services outreach whilst maintaining continuous rehabilitation services at the health facility. This also aligns with the current goals of South Africa's human resources for health policy documents.

  In order to monitor whether rehabilitation services are meeting the rehabilitation policy goals, health information systems should include both patient-level data as well as service-level data. Formalising the role of rehabilitation managers and upskilling them in service design and planning will complement the addition of service-level data to inform improvements in the service.

  Research

In addition to recommendations for policy and service delivery, this thesis has recommendations for future research.

- Firstly, future research should examine the policy formulation processes for rehabilitation services at national and sub-national levels. This examination should describe the stakeholders, the processes and the contexts in which policy formulation takes place because these processes inform the types of policies that are published.
- Secondly, research should explore the resource allocation processes at national, provincial, district and health facility levels. This will enable the funding flows for rehabilitation services to be mapped and the related bottlenecks identified.

- Thirdly, research should assess how existing tools are currently supporting workforce planning for rehabilitation services at national and sub-national levels.
- Fourthly, future research should examine access factors amongst people with other types of disabilities.
- Finally, future research should go beyond rehabilitation service capacity and examine the quality of rehabilitation services by also observing processes of care. This should be conducted in other districts in South Africa in order to have an updated baseline assessment in preparation for the full implementation of the UHC plan.

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Appendix

Appendix 4.1: National and sub-national policies relevant to rehabilitation included in the policy review

Policy Document	Date	Department
1. A National Health Plan for South Africa	1994	Health
2. Integrated National Disability Strategy White Paper	1997	Social Development
3. White Paper for the Transformation of the Health System in South Africa	1997	Health
4. Health Sector Strategic Framework	1999	Health
5. National Rehabilitation Policy	2000	Health
6. Eastern Cape Provincial Health Act	2000	Health
7. A District Hospital Service Package for South Africa	2002	Health
8. Standardisation of Provision of Assistive Devices in South Africa	2003	Health
9. A National Human Resources Plan for Health	2006	Health
10. Policy of Quality in Health Care for South Africa	2008	Health
11. Policy on Disability	2009	Social Development
12. Human Resources for Health South Africa 2030	2011	Health
13. Human Resources for Health South Africa, HRH Strategy for Health Sector	2011	Health
14. National Core Standards for Health Establishments	2011	Health
15. Eastern Cape Annual Performance Plan 2013/14	2013	Health
16. Eastern Cape Five Year Strategic Plan	2015	Health
17. Framework and Strategy for Disability and Rehabilitation Services in South Africa	2015	Health
18. Implementation Guideline of Health Workforce Normative Guides and Standards	2015	Health
19. National Development Plan 2030 Persons with Disabilities as equal Citizens	2015	Social Development
20. National Disability Rights Policy	2015	Social Development
21. White Paper on the Rights of Persons with Disabilities	2015	Social Development
22. Eastern Cape Department of Health Strategic Plan 2015/16-2019/20	2015	Health

23. National Health Strategic Plan	2015	Health
24. District Health Planning and Monitoring Framework	2017	Health
25. National Health Insurance for South Africa White Paper	2017	Health
26. NHI Implementation structures, institutions and bodies to be established	2017	Health
27. Eastern Cape Operational Plan 2017/18	2017	Health
28. National Annual Performance Plan 2017/18	2017	Health
29. Ideal Clinic Manual Version 18	2018	Health
30. National Health Commodities Catalogue for PHC facilities	2018	Health
31. OR Tambo District Health Plan	2018	Health
32. Eastern Cape Annual Performance Plan 2018/19	2018	Health
33. Eastern Cape Operational Plan 2018/19	2018	Health
34. Ideal Hospital Realisation and Maintenance Framework Manual	2018	Health
35. National Annual Performance Plan 2018/19	2018	Health
36. Norms and Standards applicable to certain categories of health establishments	2018	Health
37. Eastern Cape Service Delivery Improvement Plan 2018/19-2020/21	2018	Health
38. Eastern Cape Annual Performance Plan 2019/20	2019	Health
39. Eastern Cape Operational Plan 2019/20	2019	Health
40. National Annual Performance Plan 2019/20	2019	Health

Appendix 5.1: Sightsavers Accessibility Audit Tool

Details of the facility			
Facility:			
Town:			
District:			
Details of the audit team			
	Name	**Title**	**Organisation**
1			
2			
3			
4			
5			
6			
7			
8			
Start time:		End time:	
Date:			
General comments / observations:			

1. Outside the Health Centre

		Yes ✓ No ✖	N/A	Comments
1.	Can you easily identify the health centre?			
2.	Is there parking? If no, go to Question 5			
3.	Are there spaces reserved for people with disabilities? If no, please go to question 5			
4.	If yes, do they meet the accessibility standards? Please refer to the guidelines "1.2 Parking" page 6 and note any issues			
5.	Is there a pathway at least 90 cm wide, flat, smooth and non-slippery (from the parking) to the entrance?			
6.	Is the pathway free of all obstacles and hazards (equipment, boxes etc.)?			
7.	Is there any tactile paving of contrasting colour?			
8.	Is the entrance clearly signed?			
9.	Are there any steps or stairs at the entrance? If no go to question 11			
10.	If yes, do the steps or stairs meet the accessibility standards? Please refer to the guidelines "2. Steps and stairs" page 8 and note any issues			
11.	Is there a ramp? If no, go to question 13			
12.	If yes, does the ramp meet the accessibility standards? Please refer to the guidance "3. Ramps" page 12 and note any issues			
13.	Does the entrance door meet the criteria for manual doors? Please refer to guidelines "4. Doors" page 16 and note any issues.			
14.	Are wheelchairs available near the entrance for patients who need them?			
15.	Is the entrance free of all obstacles and hazards (equipment, boxes etc.)?			
16.	Is there a map of the building near the entrance, with tactile information?			

For more information on accessibility outside the health centre, please consult the guidelines from page 4.

Comments:

Please refer to the guidelines and detail any obstructions or recommendations for adjustment

2. Reception and Waiting Area

		Yes ✓ No ✖	N/A	Comments
1.	Is there a reception counter or area? If no, go to Question 8			
2.	Is the reception counter or area clearly identifiable from the entrance?			
3.	Can a wheelchair user use the counter comfortably?			
4.	Is there enough space at the counter / in the reception area to allow privacy in communications?			
5.	Is there a sign at reception that gives priority for people with disabilities, older people, adults with children, and pregnant women?			
6.	Is information on the services at the health centre available in easy-to-read and large print format?			
7.	Is there a functioning and clearly signalled hearing loop installed at the counter?			
8.	Is there any provision of sign language interpretation for patients who require it?			
9.	Is there a waiting area? If no, go to Question 12.			
10.	Are there chairs available in the waiting area? If no go to Question 12.			
11.	Is there a sign in the waiting area that gives priority for people with disabilities, older people, adults with children, and pregnant women?			
12.	Is there space for wheelchairs in the waiting area?			
13.	Is the surface level, smooth and non-slippery?			
14.	Is there enough light so all the information be clearly seen? (this can be through natural or artificial light)			
15.	Is the waiting area/ reception free from loud background noises? (Can you hear conversation clearly?)			
16.	Is the waiting area / reception clear of any obstacles and hazards?			

For more information, please refer to guidelines "6. Reception and Waiting Area" on page 20

Comments:

Please refer to the guidelines and detail any obstructions or recommendations for adjustment

3. Rooms and Halls

		Room					
	Yes ✓ No ✖ (for each room)	**1**	**2**	**3**	**4**	**5**	**Comments**
1.	Does the room have a door that meets the accessibility standards? Please refer to guidelines "4. Doors" page 16 and note any issues.						
2.	Is there a sign outside the room? If no go to question 4						
3.	Does the sign meet accessibility standards? Please refer to guidelines "8. Internal signage" page 24 and note any issues						
4.	Is there sufficient space inside the room to manoeuvre a wheelchair?						
5.	Is the floor material non-slip and non-glare?						
6.	Is the room clear of any obstructions or hazards?						
7.	Is there enough light? (natural or artificial)						
8.	Are obstacles in room in contrasting colours e.g. cabinets and tables clearly visible etc.						
9.	Is the room free from loud background noise (is it possible to clearly hear verbal communication)?						
10.	Can people with sensory, physical and intellectual disabilities use relevant equipment?						
11.	Are there functioning fire alarms with visual and audible signal installed?						
12.	Is there clear signage indicating accessible escape routes?						

For more information, please refer to the guidelines "7. Rooms and halls" on page 23.

Comments:

Please refer to the guidelines and detail any obstructions or recommendations for adjustment

4. General Toilets

		Yes ✓ No ✗ (for each toilet block)	N/A	Comments
1.	Are there toilets patients can use? If no go to section 6 "Moving around inside the health centre			
2.	Is there clear directional signage indicating the location of the toilets?			
3.	Are toilets separated by gender with clear signage?			
4.	Do toilets have doors?			
5.	Can the toilets be locked from inside and released from outside by authorised staff in an emergency?			
6.	Is the floor material well drained, waterproof, non-slip and non-glare?			
7.	Are there sanitary bins in the toilets?			
8.	Is there running water in or close to the toilets?			
9.	Is there a washbasin?			
10.	Are soap and paper towel provided?			
11.	Does the colour of the squat toilet / WC / urinal / washbasin contrast with the background?			
12.	Are toilets clear of any obstructions or hazards?			
13.	Is there enough light?			
14.	Are the toilets clean and free from strong smells?			
15.	Is there a functioning fire alarm, with visual and audible signals, installed in the toilet?			
16.	Could a wheelchair user use the toilet?			

For more information, please refer to the guidelines "9. General toilets" on page 26.

Comments:

Please refer to the guidelines and detail any obstructions or recommendations for adjustment

5. Accessible Toilets

		Yes ✓ No ✖ (for each toilet block)	N/A	Comments
1.	Are there functioning accessible toilet facilities reserved for people with disabilities? If no, go to section 6. Moving around the health centre.			
2.	Can the accessible toilet be used by people of all genders?			
3.	Is there clear directional signage indicating the location of the accessible toilet?			
4.	Is the accessible toilet clearly labelled with signage which meets the accessibility standards? Please refer to the guidelines "9. Internal signage" page 24 and note any issues			
5.	Does the accessible toilet have a sliding door or a door that opens outwards, and which meets the accessibility standards? Please refer to the guidelines "4. Doors" page 16 and note any issues.			
6.	Can the accessible toilet door be locked from inside?			
7.	Can the accessible toilet door be released from outside by authorised staff in case of emergency?			
8.	Is there sufficient space inside the accessible toilets to manoeuvre a wheelchair?			
9.	Is the floor material well drained, waterproof, non-slip and non-glare?			
10.	Are a toilet paper dispenser and/or bidet shower and flush control located within easy reach and easy to use?			
11.	Is there an accessible sanitary bin?			
12.	Is there a western toilet in the accessible toilet? If no go to Question 15			
13.	Is the toilet located at the corner of the room?			
14.	Is the toilet seat at a height between 45-48 cm?			
15.	Is there a urinal? If no, go to question 17			
16.	Is the rim of the urinal at a height of 43 cm maximum, a depth of 34.5 cm minimum?			
17.	Is there a washbasin? If no, go to question 21			
18.	Is the rim of the washbasin mounted at a height of 86.5 cm maximum from the floor?			
19.	Does the washbasin allow knee space?			
20.	Is the tap easily operable?			
21.	Are soap and paper towel provided through accessible dispensers?			

For additional information, please refer to the guidelines "10. Accessible toilet" on page 27.

Comments:

Please refer to the guidelines and detail any obstructions or recommendations for adjustment

6. Moving Around the Health Centre

		Yes ✓ No ✘	N/A	Comments
1.	Is there enough space for wheelchair users, a clear path of 120 cm wide and turning spaces of at least 150 cm?			
2.	Are the paths and corridors free of all obstacles and hazards (boxes, tables, cupboards etc.)?			
3.	Are obstacles in the corridors in contrasting colours e.g. columns of a different colour from the background etc.			
4.	Is the surface stable, flat, non-slip and non-glare?			
5.	Are there clear signs providing directions to rooms with colour contrast, non-glare, large print and pictures			
6.	Is there any visual floor wayfinding signage and/or tactile paving with colour contrast?			
7.	Is there enough light along the paths and corridors?			
8.	Are there functioning fire alarms with both visual and audible signals?			
9.	Is there clear signage indicating accessible escape routes?			
10.	If there are corridor doors, do they meet the accessibility requirements? Please refer to guidelines "4. Doors" page 16 and note any issues.			
11.	If there are steps and stairs along the corridors, do they meet the accessibility requirements? Please refer to guidelines "2. Steps and Stairs" page 8 and note any issues.			
12.	If there are ramps along the circulation paths, do they meet the accessibility requirements? Please refer to guidelines "3. Ramps" page 12 and note any issues.			

For additional information, please refer to the guidelines "11. Moving around the health centre" on page 35.

Comments:

Please refer to the guidelines and detail any obstructions or recommendations for adjustment

Appendix 5.2: Sightsavers Guidelines for Accessibility

The guidelines can be found as a separate attachment.

Appendix 5.3: Adapted Rehabilitation Health Facility Assessment Tool

Qhayiya Maqaqa *Rehabilitation Services: Health Facility Assessment* V1

Health Facility Unique Identifier				
Date				
Assessors				
Does this facility offer any rehabilitative care services? (tick one)	**YES**		**NO**	
1. Basic Amenities	**Type**	**Yes and functional**	**Yes but not functional**	**No**
Power Supply				
Water source				
Sanitation				
Treatment room patient privacy				
Telephone				
Computer				
Internet Access				
ASK TO SPEAK WITH THE PERSON MOST FAMILIAR WITH THE REHABILITION SERVICES OFFERED IN THE FACILITY. EXPLAIN THE SURVEY AND THAT PROVISION OF INFORMATION HAS BEEN APPROVD BY THE FACIITY MANAGEMENT				
2. First I want to know about where rehabilitation services are offered in this facility. For each site I mention, please tell me if staff provide rehabilitation services in this site.	**YES**		**NO**	
Medical wards				
Surgical wards				
Emergency Unit				
Intensive care unit(s)				
Outpatient services (any site)				
Outreach to community-based health centres				
3. Next I want to know about the trained rehabilitation staff who are	**FULL TIME**		**PART-TIME**	

Page 1

Adapted from WHO Harmonized Health Facility Assessment, WHO Priority Assistive Products list & RSA National Health Commodities Catalogue for PHC

available for services in this facility. For each qualification I mention, please tell me how many full time and part time persons with the qualifications are employed by this facility.		
Registered physical therapists (total) 1. Community Service		
2. Grade 1		
3. Grade 2		
4. Grade 3		
5. Chief Physiotherapist		
6. Other (including assistants)		
Registered occupational therapists	**FULL TIME**	**PART-TIME**
1. Community Service		
2. Grade 1		
3. Grade 2		
4. Grade 3		
5. Chief Occupational Therapist		
6. Other (including assistants)		
Registered speech and language therapists	**FULL TIME**	**PART-TIME**
1. Community Service		
2. Grade 1		
3. Grade 2		
4. Grade 3		
5. Chief Speech and Language Therapist		
6. Other (including assistants)		
Rehabilitation medical doctors		
Rehabilitation nurse		

Registered Prosthetists and Orthotist	FULL TIME	PART-TIME
1. Community Service		
1. Grade 1		
2. Grade 2		
3. Grade 3		
4. Chief Prosthetist and Orthotist		
5. Other (including assistants)		
Registered Audiologist	FULL TIME	PART-TIME
1. Community Service		
2. Grade 1		
3. Grade 2		
4. Grade 3		
5. Chief Audiologist		
6. Other		

4. I would like to see different equipment and consumables for rehabilitation services. For each item I ask about, please show me equipment and clarify if it is functional or not.	YES	NO	(If no) If you need to issue where do you order/procure?	a) If you need to order, how long does it take to arrive at the health facility? b) Ask to see a list/documentation that specifies contact information for any assistive products that can be accessed by patients from outside the facility	
Parallel bars					
Height adjustable treatment bed/plinth					
Upper limb exercise equipment (weights/ pulleys/ TheraBand					
Measuring tape					
Goniometer					
Compression bandages / tubigrip					
Casting and Splinting Kit					
Alarm signallers with light/sound/vibration 					

Audioplayers with DAISY capability 					
Braille displays (note takers) 					
Braille writing equipment/braillers 					
5. I would like to see different equipment and consumables for rehabilitation services. For each item I ask about, please show me equipment and clarify if it is functional or not.	YES	NO	(If no) If you need to issue where do you order/procure?	a) If you need to order, how long does it take to arrive at the health facility? b) Ask to see a list/documentation that specifies contact information for any assistive products that can be accessed by patients from outside the facility	
Canes/sticks 					
Chairs for shower/ bath/toilet 					
Closed captioning displays 					
Club foot braces					
Communication boards/books/cards 					
Communication software 					
Crutches, axillary/ elbow 					
Deafblind communicators 					

Recorders 					
Screen readers 					
Simplified mobile phones 					
Spectacles; low vision, short distance, long distance, filters and protection 					
8. I would like to see different equipment and consumables for rehabilitation services. For each item I ask about, please show me equipment and clarify if it is functional or not.	YES	NO	(If no) If you need to issue where do you order/procure?	a) If you need to order, how long does it take to arrive at the health facility? b) Ask to see a list/documentation that specifies contact information for any assistive products that can be accessed by patients from outside the facility	
Standing frames, adjustable 					
Therapeutic footwear; diabetic, neuropathic, orthopaedic 					
Time management products 					
Travel aids, portable 					
Tricycles 					
Video communication devices 					
Walking frames/ walkers 					

Watches, talking/ touching 					
Wheelchairs, manual for active use 					
Wheelchairs, manual assistant-controlled 					
Wheelchairs, manual with postural support 					
9. I would like to see different equipment and consumables for rehabilitation services. For each item I ask about, please show me equipment and clarify if it is functional or not.	YES	NO	(If no) If you need to issue where do you order/procure?	a) If you need to order, how long does it take to arrive at the health facility? b) Ask to see a list/documentation that specifies contact information for any assistive products that can be accessed by patients from outside the facility	
Wheelchairs, electrically powered 					
White canes					
Any patient education materials					
Batteries for hearing aids (non-rechargeable): hearing aid size 675					
Batteries for hearing aids (non-rechargeable): hearing aid size 312					
Batteries for hearing aids (non-rechargeable): hearing aid size 13					
Batteries for hearing aids (non-rechargeable): hearing aid size 10					
Prepacked sachets of bicarbonate of soda					

Adapted from WHO Harmonized Health Facility Assessment, WHO Priority Assistive Products list & RSA National Health Commodities Catalogue for PHC

One- handed breadboard: A wooden or Perspex chopping board with two nails protruding through the board at one corner, with a border edge of at least 2cm high on two sides of the same corner.					
Cable ties: nylon, medium (Self-locking cable ties, 200mm long by 5mm wide, minimum 22kg tensile strength for fixing and manufacturing assistive devices)					
10. I would like to see different equipment and consumables for rehabilitation services. For each item I ask about, please show me equipment and clarify if it is functional or not.	YES	NO	(If no) If you need to issue where do you order/procure?	a) If you need to order, how long does it take to arrive at the health facility? b) b) Ask to see a list/documentation that specifies contact information for any assistive products that can be accessed by patients from outside the facility	
Cable ties: nylon, long (Self-locking cable ties, 400mm long by 7,5mm wide, minimum 50kg tensile strength for fixing and manufacturing assistive devices)					
Cardboard sheets: A4, various colours					
Coloured pencils, pens, crayons					
Curette: cerumen, lighted, replacement curettes					
Curette: cerumen, lighted, replacement light					
Wedge based, thin foam, positioner					
Wedge based, thick pressure care foam					
Cushion cover: waterproof, stretchable					

Adapted from WHO Harmonized Health Facility Assessment, WHO Priority Assistive Products list & RSA National Health Commodities Catalogue for PHC

Cushion cover: basic, stretchable					
Ear mould impression material and scoop					
Ear mould impression material catalyst					
Otolight: replacement globe					
Otolight: replacement tips					
Exercise band: latex, very light 1-1,5kg					
11. I would like to see different equipment and consumables for rehabilitation services. For each item I ask about, please show me equipment and clarify if it is functional or not.	YES	NO	(If no) If you need to issue where do you order/procure?	a) If you need to order, how long does it take to arrive at the health facility? b) Ask to see a list/documentation that specifies contact information for any assistive products that can be accessed by patients from outside the facility	
Exercise band: latex, light 1,5-2kg					
Exercise band: latex, medium 2-2,7kg					
Exercise band: latex, heavy 2,7-3,5kg					
Exercise band: latex, very heavy 3,5-4,5kg					
Cup: feeding					
Spoon: feeding					
Ferrule: rubber, 16mm					
Ferrule: rubber, 22mm					
Ferrule: rubber, 25mm					
EVA foam (Very high density foam for padding areas of a device with exceptional wear and tear)					
Foam: high-density, 36/20, 2,5cm					
Foam: high-density, 36/20, 5cm					

Adapted from WHO Harmonized Health Facility Assessment, WHO Priority Assistive Products list & RSA National Health Commodities Catalogue for PHC

Foam: HD compressed 1300, 2,5cm thick					
Foam: HD compressed 1300, 5cm thick					
Masonite board (for manufacturing assistive devices)					
Oil: arnica					
Otostop 5mm					
Otostop 10mm					
Otostop 13mm					
12. I would like to see different equipment and consumables for rehabilitation services. For each item I ask about, please show me equipment and clarify if it is functional or not.	YES	NO	(If no) If you need to issue where do you order/procure?	a) If you need to order, how long does it take to arrive at the health facility? b) Ask to see a list/documentation that specifies contact information for any assistive products that can be accessed by patients from outside the facility	
Paper: print-out, tympanometer					
Pelvic strap: basic 5cm					
Pelvic strap: basic 3cm					
Pressure garment material: elastonet, beige					
Pressure garment material: elastonet, white					
Pressure garment material: elastonet, dark brown					
Sewing kit for manufacture of assistive devices					
Splinting material- Thermoplastic sheet: 1,6mm					
Splinting material- Thermoplastic sheet: 1,6mm					
Splinting material- Thermoplastic sheet: 2,4mm					

Adapted from WHO Harmonized Health Facility Assessment, WHO Priority Assistive Products list & RSA National Health Commodities Catalogue for PHC

Splinting material-Thermoplastic sheet: 2,5mm					
Splinting material-Thermoplastic sheet: 3,2mm					
Splinting material-Thermoplastic sheet: 4,8mm					
Splinting material-Thermoplastic tape: 3cm					
Splinting material-Thermoplastic tape: 6cm					
13. I would like to see different equipment and consumables for rehabilitation services. For each item I ask about, please show me equipment and clarify if it is functional or not.	YES	NO	(If no) If you need to issue where do you order/procure?	a) If you need to order, how long does it take to arrive at the health facility? b) Ask to see a list/documentation that specifies contact information for any assistive products that can be accessed by patients from outside the facility	
Towelling					
Hand towels					
Face cloth					
Varnish: wood					
Velcro: hook, circle, self-adhesive, 1cm diameter (for making picture-based alternative communication systems)					
Velcro: loop, circle, self-adhesive, 1cm diameter (for making picture-based alternative communication systems)					
Velcro: loop, 5cm width, 50m roll (for making assistive devices and splints)					
Velcro: hook, 5cm width, 50m roll (for making assistive devices and splints)					

Adapted from WHO Harmonized Health Facility Assessment, WHO Priority Assistive Products list & RSA National Health Commodities Catalogue for PHC

Patient pays full cost out-of-pocket			
Other _____ (SPECIFY)			
Are you aware of any patients needing facilitative devices who did not receive them because they could not find a means for paying? (tick one)	YES		
	NO		
Does this facility have any national clinical practice guidelines or national protocols/procedures for rehabilitation care? IF YES, ASK: May I see the guidelines?	YES, OBSERVED		
	YES, REPORTED, NOT SEEN		
	NO		
Does this facility have any rehabilitation specific clinical practice guidelines, treatment procedures or any established guidance for rehabilitation care? IF YES, ASK: May I see the guidelines?	YES, OBSERVED		
	YES, REPORTED, NOT SEEN		
	NO		
Have you or any other provider of rehabilitation care services received training related to diagnosis, counselling, or treatment for palliative care during the past 2 years?	YES (state training type)		
	NO		
15. I would like to observe evidence of the system for providing comprehensive rehabilitation services in this facility. **ASK TO SEE EVIIDENCE OF EACH OF THE FOLLOWING. (tick)**	AVAILABLE, OBSERVED	REPORTED AVAILABLE, NOT SEEN	NOT AVAILABLE
Written guidelines/standards for identifying cases that should be assessed for rehabilitation service needs			
Evidence of receiving referrals from any units to assess patients for need of rehabilitation services			
Printed referral forms used by units when requesting patient assessment for rehabilitation services			

Adapted from WHO Harmonized Health Facility Assessment, WHO Priority Assistive Products list & RSA National Health Commodities Catalogue for PHC

List of referral resources and contact information for patients to receive continued care after discharge.			
Evidence of patient receiving rehabilitation follow up after discharge			
16. Evidence of any of the following services being provided in the facility in the past 3 months:	AVAILABLE, OBSERVED	REPORTED AVAILABLE, NOT SEEN	NOT AVAILABLE
Physical therapy			
Occupational therapy			
Speech and language therapy			
Prosthetic/orthotist services			
Audiology services			

17. I would like to observe evidence of the system for this facility providing outpatient or community-based rehabilitation services. (tick) ASK TO SEE EVIDENCE OF EACH OF THE FOLLOWING.	AVAILABLE, OBSERVED	NOT AVAILABLE
Evidence of receiving referrals for outpatient rehabilitation		
Schedules for outpatient rehabilitation services		
List of referral sites with contact information for community rehabilitation		
Referral forms for community rehabilitation		
Schedule for providing home rehabilitation services		
Evidence of any of the following services being provided by this facility as outpatient or community level services in the past 3 months		
Physical therapy		
Occupational therapy		
Speech/language therapy		
Prosthetic/orthotist services		
Audiology services		

Adapted from WHO Harmonized Health Facility Assessment, WHO Priority Assistive Products list & RSA National Health Commodities Catalogue for PHC

When was the last time a supervisor from outside this facility came here on a supervisory visit for any aspect of rehabilitative care services? Was it this month, within the past 2-3 months, or more than 3 months ago? (tick one)	THIS MONTH	
	WITHIN 2-3 MONTHS	
	MORE THAN 3 MONTHS AGO	
	DON'T KNOW	
Is there any documentation from an external supervisory visit for rehabilitation care services during the past 3 months? (tick one) IF YES, ASK TO SEE DOCUMENTATION	YES, OBSERVED	
	YES, REPORTED, NOT SEEN	
	NO	
Does the documentation provide any feedback or comments on some aspect of rehabilitative care services? (tick one) IF YES, ASK TO SEE DOCUMENTATION	YES, OBSERVED	
	YES, REPORTED, NOT SEEN	
	NO	

18. Additional Notes/Comments

Appendix 5.4: Rehabilitation Provider Questionnaire

Research Participant number:

Rehabilitation Provider Questionnaire

Objective: The purpose of this questionnaire is to explore factors related to the rehabilitation workforce in public health facilities in the district of OR Tambo. The domains of this questionnaire are informed by the World Health Organisation's framework for Human Resources in Health and the World Health Organisation's Global Policy Recommendations for Increasing Access to Health Workers in Rural and Remote areas through Improved Retention.

Thank you for being willing to participate in this questionnaire. This questionnaire forms part of my doctoral research at the Nuffield Department of Medicine at the University of Oxford in the United Kingdom.

This questionnaire is intended for all individuals currently working in public health facilities in the district of OR Tambo, including physiotherapists, occupational therapists, audiologists, speech and language therapists, orthotists and prosthetists, and all related assistants.

Your responses are confidential and will only be reviewed by me as the principal investigator. Please answer every question as far as possible. If this is not possible, kindly indicate this in your survey response (using "N/A") rather than leaving the question blank.

1. **Employed by:**
   Check all that apply.

   - ☐ Department of Health
   - ☐ Private Sector
   - ☐ Non-governmental organisation (NGO)
   - ☐ Other: _____

2. **What is your occupational role?** *Mark only one oval.*

   - ◯ Community Service
   - ◯ Permanent Post (excluding Chief/Managerial post)
   - ◯ Chief Post
   - ◯ Manager Post

3 **Category of rehabilitation provider**
Mark only one oval.

1

- ◯ Audiologist
- ◯ Audiology assistant
- ◯ Dual qualified Audiologist and Speech & Language therapist
- ◯ Occupational therapist
- ◯ Occupational therapy assistant
- ◯ Orthotist and Prosthetist
- ◯ Orthotist and Prosthetist assistant
- ◯ Physiotherapist
- ◯ Physiotherapy assistant
- ◯ Speech and Language therapist
- ◯ Speech & Language therapy assistant
- ◯ Other: _____

4. **Gender** *Mark only one oval.*

- ◯ Female
- ◯ Male
- ◯ Prefer not to ~~say~~

5. **Relationship Status** *Check all that apply.*

- ☐ Single
- ☐ Committed Relationship
- ☐ Married
- ☐ Separated/~~Divorced~~

6. **How many dependants do you have?**

_____

7. **What is your highest qualification (provide full name of qualification)?**

_____

8 **Which languages do you speak? (Tick all that apply)**
Check all that apply.

- [ ] isiXhosa
- [ ] English
- [ ] Afrikaans
- [ ] isiNdebele
- [ ] seSotho
- [ ] siSwati
- [ ] Tsonga
- [ ] siTswana
- [ ] Venda
- [ ] isiZulu
- [ ] South African Sign Language
- [ ] Northern Sotho
- [ ] Other: _____

Education

This section will ask you about your educational attainment.

9. **What was your undergraduate degree?** *Check all that apply.*

- [ ] BSc Audiology
- [ ] BSc Occupational Therapy
- [ ] BA Occupational Therapy
- [ ] BSc Physiotherapy
- [ ] BSc Communication and Speech Disorders
- [ ] BSc Orthotics and Prosthetics
- [ ] Other: _____

10. **At which university did you obtain your undergraduate degree?** *Check all that apply.*

- [ ] Walter Sisulu University
- [ ] University of the Western Cape
- [ ] University of Stellenbosch
- [ ] University of Cape Town
- [ ] University of the Free State
- [ ] University of Pretoria
- [ ] University of Witswatersrand
- [ ] University of Kwa Zulu Natal
- [ ] Sefako Makgatho Health Sciences University
- [ ] Other: _____

11 **State any additional qualifications/courses that you are currently undertaking.**

12. **If applicable, through which institution are you currently undertaking your additional qualification/course (from the above question)?**

13. **Are you considering pursuing a further qualification? If yes, please state the field/programme. If no, please state reasons for not considering a further qualification.**

Recruitment

This section will ask you about how you ended up working in your current job.

14. **How did you find out about your current job?**

15. **Please describe the process that you needed to go through in order to be employed in your current job.** *Mark only one oval.*

- ◯ Paper-based application form to department of health
- ◯ Online application form to department of health
- ◯ Applied to a specific post and hospital
- ◯ Applied by providing options and then being placed by department of health
- ◯ Other:

16 **Please describe what could have improved the recruitment process. If not applicable, move to the next question.**

17. **Please write down all the factors that contributed in making your decision to work in a rural health facility.**

Training and Distribution

This section aims to understand how rehabilitation professionals are distributed in relation to their workplace, and what additional training you have undertaken.

18. **How long (in minutes) does it take you to get to work?** *Check all that apply.*

- [ ] Less than or equal to 10 minutes
- [ ] 10-20 minutes
- [ ] 20-30 minutes
- [ ] More than 30 minutes

19. **What means of transportation do you use to get to work?**

20. **If you need to provide outreach services to other health facilities, what means of transportation is available to you?** *Check all that apply.*

- [ ] I do not need to do outreach services to other health facilities
- [ ] My health facility has vehicles and a transport booking system
- [ ] I use my own car
- [ ] I use my colleague's car
- [ ] I use public transport
- [ ] Other:

21 **How easy or difficult is it to take additional courses related to your job? Please explain.**

22. **What type of support do you currently have in order to perform your work?** *Check all that apply.*

- [ ] I currently have no support
- [ ] Regular clinical supervision
- [ ] Journal Club
- [ ] Regular department meetings
- [ ] Being mentored by a senior colleague
- [ ] Online clinical/professional community
- [ ] Clinical Ward Round
- [ ] Reflective activities with a colleague or senior
- [ ] Informal departmental gatherings
- [ ] Other: _____

23. **How adequate is the support that your receive to assist you in performing your work (refer to the question above)?**

24. **If applicable, how do you think that the support that you are provided could be improved?**

Productivity and Performance

This section aims to understand factors related to your workload in your health facility.

25. **In your own words, what values would you say underpin your work in providing rehabilitation services in your health facility?**

26 **How many rehabilitation providers are employed in your health facility? Please name the professions.**

27. **On average, how many patients/clients do you see per day?**

28. **Are there days where the numbers of patients are higher than usual? Please explain.**

29. **Are there days where the numbers of patients are lower than usual? Please explain.**

30. **How many weekends do you work per month?** *Mark only one oval.*

- ◯ None
- ◯ 1 weekend
- ◯ 2 weekends
- ◯ 3 weekends
- ◯ Every weekend
- ◯ Other:

31. **If you work during weekends, how many hours do you work?** *Mark only one oval.*

- ◯ Not Applicable (N/A)
- ◯ 1-4 hours
- ◯ 5-8 hours
- ◯ More than 9 hours

32 **Regarding your patient/client workload, which of the following is true?**
Mark only one oval.

- ◯ High workload and difficult to manage
- ◯ High workload but manageable
- ◯ Just right
- ◯ Low workload

33. **Besides attending to patients/clients in your health facility, what other responsibilities do you have in your workplace?** *Check all that apply.*

- ☐ Writing reports regarding rehabilitation service delivery
- ☐ Procurement of equipment and consumables
- ☐ Procurement of assistive devices
- ☐ Preparing rotas for meetings/journal club
- ☐ Presenting cases at ward rounds
- ☐ Presenting academic articles at journal club or similar meetings
- ☐ Performing audits of the rehabilitation service in the health facility
- ☐ Active member of a professional body or association
- ☐ Preparing rotas and activities for team building or informal meetings
- ☐ Delivering outreach rehabilitation services at surrounding clinics
- ☐ Conducting home visits
- ☐ Creating and running patient programmes or projects
- ☐ Advocacy work (projects, meetings, speaking engagements, community engagement)
- ☐ Attending clinical or professional training courses
- ☐ Providing support or supervision to junior colleagues
- ☐ Other: _____

34. **Within your health facility, which other healthcare workers do you refer or receive referrals from?**
Check all that apply.

- ☐ Nurses
- ☐ Medical doctors
- ☐ Other rehabilitation providers
- ☐ Other: _____

35. **Outside your health facility, which other organisations or individuals do you refer or receive referrals from?** *Check all that apply.*

- [ ] Community Health Workers/Community Disability Workers or similar
- [ ] Non-governmental organisations
- [ ] Schools
- [ ] Regional hospitals
- [ ] Provincial hospitals
- [ ] Other:

38 **Which assistive devices are prescribed to patients/clients at your health facility?**

37. **If applicable, how would you describe the functioning of the multi-disciplinary team (MDT) in terms of referral processes within your health facility?**

38. **How would you describe the relationships between the rehabilitation providers and the rest of the MDT? Please elaborate.**

39. **How would you describe the relationships between the rehabilitation providers? Please elaborate.**

40. **What are positive aspects of the way that your rehabilitation/therapy department is currently running?**

41 **What could improve about the way that your rehabilitation/therapy department is currently running?**

Retention

This section aims to understand factors related to your remaining at your health facility.

42. **In the last year, how many rehabilitation workers have left your department?**

43. **If applicable, describe all the factors that make you consider leaving your current workplace?**

44. **Within the next two years, do you plan to remain in your current health facility?** *Mark only one oval.*

- Yes
- No
-

45. **If you do not plan to remain in your current health facility: In which type of ~~facility~~ do you plan to work?**
Check all that apply.

- [ ] In another rural health facility
- [ ] In any health facility in the public sector
- [ ] In a private health facility
- [ ] Other: _____

46. **If you do plan on remaining in your current health facility, please explain all the factors (professional and personal) that have influenced your decision to stay.**

_____

_____

_____

_____

_____

47 **Do you aspire to fill a managerial or chief post in your current health facility?**
Mark only one oval.

- ◯ Yes
- ◯ No

Please explain:

48. **Do you aspire to fill a managerial or chief post in another health facility?**
Mark only one oval.

- ◯ Yes
- ◯ No

Please explain:

Conclusion

This is the last section of the questionnaire.

49. **Overall, is there anything else that you would like to share or that you would have liked to have been considered in this questionnaire?**

_____

_____

_____

_____

_____

Thank you for your time.

Appendix 5.5: Health Facility data regarding "Navigating the Rehabilitation Department" section of the Accessibility Audit

Navigating to and around the rehabilitation department	**hf 1**	**hf 2**	**hf 3**	**hf 4**	**hf 5**	**hf 6**	**hf 7**	**hf 8**	**hf 9**	**Total**
1. Is there enough space for wheelchair users, a clear path of 120 cm wide and turning spaces of at least 150 cm?	1	1	1	1	1	0	1	1	1	8
2. Are the paths and corridors free of all obstacles and hazards (boxes, tables, cupboards etc.)?	1	0	0	1	1	1	1	1	1	7
3. Are obstacles in the corridors in contrasting colours e.g. columns of a different colour from the background etc.	1	1	1	1	1	1	1	1	1	9
4. Is the surface stable, flat, non-slip and non-glare?	1	1	1	1	1	1	1	0	1	8
5. Are there clear signs providing directions to rooms with colour contrast, non-glare, large print and pictures	0	0	0	0	0	0	0	0	0	0
6. Is there any visual floor wayfinding signage and/or tactile paving with colour contrast?	0	0	0	0	0	0	0	0	0	0
7. Is there enough light along the paths and corridors?	1	1	1	1	1	1	1	1	1	9
8. Are there functioning fire alarms with both visual and audible signals?	1	0	0	0	0	0	0	0	1	2
9. Is there clear signage indicating accessible escape routes?	1	1	1	0	1	1	1	1	1	8
10. If there are corridor doors, do they meet the accessibility requirements? Please refer to guidelines "4. Doors" page 16 and note any issues.	1	n/a	n/a	n/a	n/a	n/a	1	n/a	n/a	2
11. If there are steps and stairs along the corridors, do they meet the accessibility requirements? Please refer to guidelines "2. Steps and Stairs" page 8 and note any issues.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
12. If there are ramps along the circulation paths, do they meet the accessibility requirements?	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Total

Appendix 6.1: Interview guide for health facility rehabilitation managers

Qhayiya Magaqa

In-depth interview guide: Health Facility Managers

Topics for Discussion: Informed by the World Health Organisation Health System Building Blocks

(Appropriate prompts will be used to guide the discussion)

Leadership and Governance

1. Health Facility Organogram
2. Who is involved and what is the process of prioritising resources (budgets, infrastructure, etc) for rehabilitation services?
3. Access to rehabilitation policies
4. The extent which these rehabilitation services have been implemented and informed by the policies
5. What values drive the provision of health services at this health facility?
6. How would you describe the relationships between the rehabilitation providers? And the relationships between you and the rehabilitation providers?

Health Workforce

1. Human resources for rehabilitation: quantity of providers and quality of service provision
2. Any tools used in the planning of rehabilitation services such as Workload Indicators Staffing Norms or other models?

Service Delivery

1. How does this rehabilitation service link with surrounding health facilities, including referral pathways?
2. Strengths of the rehabilitation service
3. Opportunities for the rehabilitation service to improve

Health Information Systems

1. Databases used and process followed for recording use of rehabilitation services at health facility
2. Monitoring and evaluation tools and techniques for appraising the rehabilitation service provided at the facility
3. The trend of availability of rehabilitation services over the last few years
4. The trend of utilization of rehabilitation services over the last few years

Access to Medical Technologies

1. Description of procurement processes for rehabilitation equipment and assistive devices
2. Strengths and weaknesses of the ways of the process of ordering assistive devices to the end user.

Financing

1. Funding pathway and process from the national level to the district level and ultimately the health facility
2. Proportion of health facility budget allocated to rehabilitation services
3. How do patients requiring rehabilitation services, including assistive devices, pay for the services?

Any other comments that you would like to add before we close?

Thank you for your time!

Appendix 6.2: Participant Information Sheet and Consent Form for rehabilitation managers

Centre for Tropical Medicine and Global Health

Consent Form for Participants (Rehabilitation Managers and/or Health Facility Managers)

Dear Participant

This letter is to inform you about a study that I, Qhayiya Magaqa, am conducting under the supervision of Dr Proochista Ariana (Centre for Tropical Medicine and Global Health, University of Oxford) and Dr Sarah Polack (International Centre for Evidence in Disability, London School of Hygiene and Tropical Medicine). Further, if you would like to participate in the study, this is the form that I will use to obtain your signed consent to say that you agree to participate in the study. Please note that you have no obligation to participate in the study and neither you not your health facility will be penalised for refusing to participate.

What is the Study about?

This research is part of my doctoral studies at the Nuffield Department at the University of Oxford in the United Kingdom. The overall study is to assess whether rehabilitation services like physiotherapy and occupational therapy, to name a few, are available in your health facility and whether people with physical disabilities are able to reach and make use of these services. Therefore, I would like to interview Rehabilitation Managers and Health Facility Managers about the way that rehabilitation services and resources are prioritised and allocated in health facilities in the OR Tambo district.

Why is this Study being conducted?

Previous research in other low- and middle-income countries suggests that it may be beneficial improve the infrastructure and the content of rehabilitation services that are offered in health facilities. This is because when people have access to rehabilitation services, they can experience improved functioning in their daily activities. Health facilities play an important role in connected people in communities to rehabilitation providers and services.

How will you benefit from this study?

In terms of payment, there will be no payment for participating in the study. However, your participation in the study will help to informing strategies that ensure that people with disabilities in OR Tambo are better served when it comes to accessing rehabilitation services at health facilities. In addition, this study provides an opportunity for you to receive an update on the rehabilitation services currently offered in your health facility.

What harm might you encounter in participating in the study?

Your participation in the study will be in the form of interviews about your own experiences of planning and implementing rehabilitation services in your health facility. You will be assigned a unique research participant number so that no one else but me will be able to link what is said in the interview to the person who was interviewed. Once the study is completed and I am no longer a member of the University of Oxford, I will ensure that all the data that may be linked to you is discarded. This is all to ensure that your participation in the study does not predispose you to victimisation or stigma.

Can you withdraw from the study?

Yes, you have the right to withdraw from the study at any point. You will not be penalised in any way for withdrawing from the study. Once you withdraw from the study, none of your information will be used in the analysis of the rest of the information that is collected. You may withdraw from the study by calling or sending me a message on 072 808 4621. Alternatively, you may send an email to my supervisor at proochista.ariana@ndm.ox.ac.uk.

How will you know what the outcome of the study is?

Once I have collected all the information from all of the interviews of Rehabilitation Managers and Health Facility Managers in the district, I will put the information together to describe the challenges and positive factors that influence the ability to set priorities and allocate resources for rehabilitation services in OR Tambo. This information will be shared with you in a meeting on a date that I will notify you of. At this meeting, I will also share with you how this portion of the study that you have been involved with, fits with the rest of my doctoral research. I will also be sharing the findings from my doctoral study with decision makers at the Eastern Cape Department of Health.

You now have an opportunity to ask any further questions that you have before you make your decision to be involved in the study.

If you agree to participate in this research study as described in this letter, please sign below.

Name of Participant: .....

Signature of Participant: .....

Date: .....

Name of Principal Investigator: .....

Signature of Principal Investigator: .....

Date: .....

Appendix 7.1: Washington Group Extended Mobility Set questions for screening participants

MOBILITY

MOB_1 [Do/Does] [you/he/she] have difficulty walking or climbing steps? Would you say… [*Read response categories*]

1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. Cannot do at all / Unable to do
7. Refused
9. Don't know

[*Note: This item is Question 3 in the WG Short Set.*]

MOB_2 [Do/does] [you/he/she] use any equipment or receive help for getting around?

1. Yes
2. No (*Skip to MOB_4.*)
7. Refused (*Skip to MOB_4.*)
9. Don't know (*Skip to MOB_4.*)

MOB_3 [Do/does] [you/he/she] use any of the following?

Interviewer: Read the following list and record all affirmative responses:

		1. Yes	2. No	*7. Refused*	*9 Don't Know*
A.	Cane or walking stick?				
B.	Walker or Zimmer frame?				
C.	Crutches?				
D.	Wheelchair or scooter?				
E.	Artificial limb (leg/foot)?				
F.	Someone's assistance?				
G.	Other (please specify):				

Please see the following webpage for more information about the Washington Group on Disability Statistics: http://www.cdc.gov/nchs/washington_group.htm.

MOB_4 [Do/Does] [you/he/she] have difficulty walking 100 meters on level ground, that would be about the length of one football field or one city block [*If MOB_2 = 1:* without the use of [your/his/her] aid]? Would you say… [*Read response categories*]

1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. Cannot do at all / Unable to do *(Skip to MOB_6.)*
7. Refused
9. Don't know

[*Note: Allow national equivalents for 100 metres.*]

MOB_5 [Do/Does] [you/he/she] have difficulty walking half a km on level ground, that would be the length of five football fields or five city blocks [*If MOB_2 = 1:* without the use of [your/his/her] aid]? Would you say… [*Read response categories*]

1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. Cannot do at all / Unable to do
7. Refused
9. Don't know

[*Note: Allow national equivalents for 500 metres.*]

MOB_6 [Do/Does] [you/he/she] have difficulty walking up or down 12 steps? Would you say… [*Read response categories*]

1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. Cannot do at all / Unable to do
7. Refused
9. Don't know

If MOB_2 = 2 "No", skip to next section.
If MOB_3 = D "Wheelchair", skip to next section.

Please see the following webpage for more information about the Washington Group on Disability Statistics: http://www.cdc.gov/nchs/washington_group.htm.

MOB_7 [Do/Does] [you/he/she] have difficulty walking 100 meters on level ground, that would be about the length of one football field or one city block, when using [your/his/her] aid? Would you say… [*Read response categories*]

1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. Cannot do at all / Unable to do *(skip MOB_8)*
7. Refused
9. Don't know

MOB_8 [Do/Does] [you/he/she] have difficulty walking half a km on level ground, that would be the length of five football fields or five city blocks, when using [your/his/her] aid? Would you say… [*Read response categories*]

1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. Cannot do at all / Unable to do
7. Refused
9. Don't know

Appendix 7.2: Participant Information Sheet and Consent Form interviews with people with disabilities (English and Xhosa versions)

OxTrec 513-19 Version 2: 14 Mar 2019

NUFFIELD DEPARTMENT of MEDICINE

Centre for Tropical Medicine and Global Health

Participant Information Sheet

Dear Participant

This letter is to inform you about a study that I, Qhayiya Magaqa, am conducting under the supervision of Dr Pronchista Ariana (Centre for Tropical Medicine and Global Health, University of Oxford) and Dr Sarah Polack (International Centre for Evidence in Disability, London School of Hygiene and Tropical Medicine). The study has been reviewed by the Oxford Tropical Research Ethics Committee (OxTREC) with reference number 513-19 and by the Health Research Ethics and Biosafety Committee at Walter Sisulu University Further, if you would like to participate in the study, this is the form that I will use to obtain your signed consent to say that you agree to participate in the study. Please note that you have no obligation to participate in the study and this will not affect your ability to engage with the health and rehabilitation services in your area.

Title of the Study

Assessing the Availability and Accessibility of Rehabilitation Services in a rural district of South Africa

What is the Study about?

This research is part of my doctoral studies at the Nuffield Department at the University of Oxford in the United Kingdom. The overall study is to assess whether rehabilitation services like physiotherapy and occupational therapy, to name a few, are available in your district and whether people with physical disabilities are able to reach and make use of these services. Therefore, I would like to interview adults who are 18 years old and above and who have a physical disability to understand what the experiences are of trying to make use of rehabilitation services at your hospital or clinic.

Why have I been invited to take part?

You are being invited to participate in this study because you may offer some important insights about things that make it easier or difficult to reach and make use of rehabilitation services as a person who has a physical disability and is 18 years old or above.

Why is this Study being conducted?

There has been previous research conducted that shows that rural areas like those in OR Tambo often do not have the appropriate and well-staffed rehabilitation service. Also, this previous research shows that when people who have disabilities try to reach and make use of rehabilitation services, they experience many challenges. Therefore, since there is a plan by the Department of Health to introduce free rehabilitation services for everyone, it is important to make sure that any challenges to making use of these rehabilitation services are addressed. This study aims to collect information regarding challenges and positive factors to making use of rehabilitation services in OR Tambo through interviews with people with physical disabilities.

What will I need to do?

1

The interview will be conducted in isiXhosa by me and a fieldwork assistant will make some notes on a sheet of paper. The interview should take no more than 90 minutes. You will be required to answer questions that I ask of you to the best of your knowledge and experience. The interview will be recorded on an audio-recorder, but no-one will be able to trace the interview to you.

How will I benefit from this study?

In terms of payment, there will be no payment for participating in the study. However, your participation in the study will help to informing strategies that ensure that people with physical disabilities in OR Tambo are better served when it comes to accessing rehabilitation services that are appropriate for the district.

What harm might I encounter in participating in the study?

You will be assigned a unique research participant number so that no one else but me will be able to link what is said in the interview to the person who was interviewed. Once the study is completed and I am no longer a member of the University of Oxford, I will ensure that all the data that may be linked to you is discarded. This is all to ensure that your participation in the study does not predispose you to victimisation or stigma.

Can I withdraw from the study?

Yes, you have the right to withdraw from the study at any point. Withdrawing from the study will not affect how you engage with the health system and you will not be penalised in any other way. Once you withdraw from the study, none of your information will be used in the analysis of the rest of the information that is collected. You may withdraw from the study by calling or sending me a message on 072 808 4621. Alternatively, you may send an email to my supervisor at proochista.ariana@ndm.ox.ac.uk or the chairperson of the Walter Sisulu University Health Research Ethics and Biosafety Committee on 047 502 2294.

How will I know what the outcome of the study is?

Once I have collected all the information from all of the interviews of people with physical disabilities, I will put the information together to describe the challenges and positive factors that influence the ability to seek rehabilitation services in OR Tambo. This information will be shared with you in a meeting on a date that I will notify you of. At this meeting, I will also share with you how this portion of the study that you have been involved with, fits with the rest of my doctoral research. I will also be sharing the findings from my doctoral study with decision makers at the Eastern Cape Department of Health. None of the outputs will contain any information that could identify you.

Will my data be protected?

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UNIVERSITY OF OXFORD

Centre for Tropical Medicine and Global Health

The University of Oxford is responsible for ensuring the safe and proper use of any personal information you provide, solely for research purposes.

What will happen to my data?

Your personal data such as your name, gender and date of birth, will be stored securely on my password protected computer so that no-one can link anything you say to you. The information that you provide in the interview will be given a unique number when I convert it from speech to text, rather than having your name on it. This is to maintain your confidentiality.

You now have an opportunity to ask any further questions that you have before you make your decision to be involved in the study. Alternatively, you can raise questions or concerns at any time during the study.

If you agree to participate in this research study as described in this letter, please sign below.

Name of Participant: .....

Signature or Thumbprint of Participant: .....

Date: .....

Name of Witness: .....

Signature of Witness: .....

Date: .....

Name of Principal Investigator: .....

Signature of Principal Investigator: .....

Date: .....

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Iphepha Lomthathi-Nxaxheba

Molo Mthathi-nxaxheba

Lencwadi yeyikwazisa ngophando mna, Qhayiya Magaqa endulenzayo phantsi kweliso lika Gqirha Proochista Ariana (Centre for Tropical Medicine and Global Health, University of Oxford) no Gqirha Sarah Polack (International Centre for Evidence in Disability, London School of Hygiene and Tropical Medicine). Oluphando lujongisiswe yi *Oxford Tropical Research Ethics Committee (OxTREC)* iyile ke inombolo yonxumana 513-19 nayi komiti ye Health Research Ethics and Biosafety kwidyunivesithi yase Walter Sisulu. Ngaphezulu, ukuba ungathanda uthatha inxaxheba koluphando eli liphepha endolisebenzisa ukufumana imvume yakho egximfisiweyo etshoyo ukuba uyavuma uthatha inxaxheba koluphando. Qaphela ke uba awunyanzelekanga ukuba uthathe inxaxheba koluphando futhi lonto asoze ibe nomthelela ekuhoyekeni kwakho kwezempilo nolwaluleko kwindawo ohlala kuyo.

Isihloko Sophando

Ukujonga ubukhona nokufumaneka kwenkonzo zolwaluleko kwiilali zase Mzantsi Afrika.

Lungantoni oluphando?

Oluphando luyinxalenye yofundo lwam lobugqirha e*Nuffield Department* kwidyuvesithi yase Oxford e*United Kingdom*. Oluphando ke lujongise ekuboneni uba iinkonzo zoluleko nje ngezoogqirha bamathambo, noogqirha bengqondo, ukubala nje ezimbalwa, bayafumaneka na kwiindawo zenu noba abantu abakhubazekileyo bayakwazi na ukufikelela kuzo bazisebenzise. Ngoko ndingathanda ukuphica abantu abadala ukuqala kwiminyaka engu 18 nangaphezulu futhi abakhubazekileyo ukuqonda ukuba uluvo lwabo luthini malunga nozama usebenzisa ezinkonzo zolwaluleko kwizibhedlele zenu nasemtholampilo.

Kutheni ndimenyiwe ukuzothatha inxaxheba?

Umenyiwe uba uthathe inxaxheba koluphando ngoba ungaveza imibono ebalulekiyo eyenza kubelula okanye kubenzima ukufikelela nosebenzisa iinkonzo zolwaluleko njengomntu okhubazekileyo emzimbeni futhi oneminyaka eyi 18 nangaphezulu.

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Kutheni lusenziwa nje oluphando?

Kwaye kwabakho uphando olwenziwa ngaphambili olubonisa uba iindawo ezisezilalini njengezi zise OR Tambo amaxesha amaninzi azinazo inkonzo zoluleko ezifanelekileyo futhi ezinabasebenzi aboneleyo. Kwakhona uphando lokuqala lubonisa uba xa abantu abakhubazekileyo bezama ukusebenzisa ezinkonzo bahlangana nemicelimngeni emininzi. Ngoko ke, kuba kukhona icebo elivele nesebe lezempilo ukuvelisa iinkonzo zolwaluleko zasimahla kuluntu lonke, kubalulekile ukuqinisekisa uba yonke imicelimngeni yokuziswa kwezinkonzo iqaphelekile. Oluphando lujongise ekuqokeleleni ulwazi malunga nemicelimngeni nako okulungileyo ekusebenziseni iinkonzo zolwaluleko e OR Tambo ngokuvavanya abantu abakhubazekileyo emzimbeni.

Yintoni endidinga ukuyenza?

Uphando lokwenziwa ndim ngesiXhosa, umncedisi wam yena abhale ephepheni. Uvavanyo alunothatha mizuzu ingaphezu ko 90.Kodingeka uba uphendule imibuzo endokubuzo yona kangangoko unolwazi. Uvavanyo locishilelwa kodwa akhomntu uzokwazi isazisi sakho.

Ndofumana ntoni koluphando?

Kicala lobhatalo, akuzubakho mali ngothatha inxaxheba koluphando. Uthatha kwakho inxaxheba konceda ukuseka iindlela ezizoqinisekisa uba abantu abakhubazekileyo emzimbeni bafumana iinkonzo ezingcono zolwaluleko ezilungele isixeko.

Ndingahlangana nayiphi ingozi ekuthatheni inxaxheba koluphando?

Uyofumana unombolo yakho eyodwa yophando bucala ukuze kungabikho namnye umntu onokwazi ukudibanisa okuthethiweyo nalowo ukuthethileyo kuvavanyo. Lwakugqitywa uphando funda ndingasenguye owase Oxford, ndoqinisekisa ukuba lonke ulwazi oludibanisa nawe lulahliwe.Oku koqinisekisa uba ukuthatha kwakho inxaxheba akukufaki ngciphekweni futhi akukukhombisi ngeminwe.

Ndingayeka na koluphando?

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Ewe, unelungelo loyeka koluphando naninni na. Uyeka kwakho akunamthelela ekuhoyekeni kwakho kwezempilo futhi awuzugwetywa nangayiphi na indlela. Xa uthe wayeka akukho lwazi lwakho luyosetuenziswa ekuphicothethi olu selufumanekile ulwazi. Ungayeka kuphando ngothintana nam okanye ngothumela umyalezo kule nombolo 0760946423. Ungakwazi nothumela umyalezo okhawulezayo kumphathi wam apha proochista.ariana@ndm.ox.ac.uk,okanye kumgcini sihlalo wase Walter Sisulu University wekomiti ye *Health Research Ethics and Biosafety ku* 047 502 2294.

Ndokwazi njani uba yintoni iziphumo zoluphando?

Ndakugqiba udibanisa lonke ulwazi endilufumane kubantu abakhubazeke emzimbeni, ndodibanisa olulwazi ndichaza imicelimngeni nokulungileyo ezinomthelela ekufumaneni iinkonzo zolwaluleko eOR Tambo. Olu lwazi sokwabelana nawe ngalo kwintlanganiso eyoba ngomhla endizokwazisa ngawo. Kulomhlangano ndocicisa uba eli iceba lolwazi luhlangana njani nezifundo zam zobugqirha. Ndokwabelana nani ke ngondikufumeneyo kufundo lwam lobigqirha nabenzi bezigqibo kwisebe lezempilo lase Mpuma Koloni. Akho nalunye ulwazi uluyokhomba kuwe.

Ingaba ulwazi lwam lokhuseleka?

Idyunivesithi yase Oxford iyowinisekisa ukhuseleko nosetyenziswa ngendlela yalo naluphi na ulwazi lwakho, luyosetyenziselwa uphando kuphela.

Kukokwenzekani kolulwazi lwam?

Izazisi zabucala njengegama, ubuni, neenkcukacha zakho zovalelwa kwi *computer* yam ekhuseleke ngenombolo ukuze kungabikho mntu uyodibanisa into oyithethileyo nawe. Ulwazi ondinike lona lofumana inombolo ebucala xa lusuka kwintetho lisiya ephepheni, kunoba libenegama kulo, oku kukuqiniseka ukufihleka kwesazisi sakho. Unethuba kengoku lokubuza nawuphi na umbuzo onawo phambi koba uthathe inxaxheba. Ungakwazi nobuza okanye uqonde naphathathi kuphando.

Ukuba uyavuma uthatha inxaxheba koluphando shicilela apha ngezantsi

Igama lomthathi-nxaxheba: .....

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Ushicilelo/ubhontsi womthathi-nxaxheba: .....

Usuku: .....

Igama lengqina: .....

Ushicilelo lengqina: .....

Usuku: .....

Igama lomcuphi omkhulu: .....

Ushicilelo lomcuphi omkhulu: .....

Usuku: .....

Appendix 7.3: Interview guide for interviews with adults with physical disabilities

Adults with Physical Disabilities

Demographic Information

1. Male or female
2. Age
3. Occupation
4. Highest educational qualification obtained
5. Social Grant status
6. Household size
7. Dependents
8. Other income earners in the house
9. Relationship status
10. Length of time in current district of residence

Background on disability

1. Type of disability
2. Anatomical area affected by disability
3. History and onset of disability
4. Use of any assistive devices
5. Adaptations to the home/workplace to facilitate independence
6. Extent of functional independence
7. How presence of disability has affected his/her life

Barriers and Facilitators: Access to rehabilitation services

1. Understanding of intention of rehabilitation service
2. Nearest rehabilitation provider
3. Nearest health facility for general health inquiries
4. Previous encounters with the rehabilitation services
5. How to get to and return from health facility for rehabilitation services
6. Procedure to be seen by rehabilitation provider
7. Interactions with rehabilitation providers
8. Intervals between rehabilitation appointments
9. What makes going to the health facility for rehabilitation easier?

10. What would a successful rehabilitation service enable you to do?

Overcoming Barriers

1. Challenges to engaging with rehabilitation services
2. What should change to improve ease of access to rehabilitation services?

Appendix 7.4: Guide for documenting Contextual Information during interviews

Interview Guide for Contextual Information

Date:
Participant Unique Study Identifier:
Interview conducted by:
Observations recorded by:

1. EMOTIONS:

2. BEHAVIOUR:

3. OTHER ACTIVITIES:

4. 3 KEY MESSAGES OF INTERVIEW:

5. ADDITIONAL COMMENTS/QUESTIONS: