Transport Issues That Underpin Access To A Tiered Government Health System In The Context Of The HIV/AIDS And Tuberculosis Epidemics:

A Study Of Referral And Emergency Service Transport In Greater Pietermaritzburg.

By

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Abstract

There is a very limited literature examining transport and access to health care, especially in the South African context. The existing literature does not provide an analysis of the influence of transport on access to health care and the utilisation of referrals by the patients. In the context of the HIV/AIDS and Tuberculosis epidemics which have already increased the demand for health care and utilisation of referrals, transport is a critical issue to take into account with regard to access to health care.

The case study presented in this dissertation examines the influence of transport (either public or private) on patient's access to health care facilities, particularly the referrals and Emergency Medical services (EMS). The findings are based on a sample of 30 EMS providers, 15 clinic and hospital nurses, doctors and senior administrators, as well as 200 patients (clients) seeking health care in the three clinics which were chosen as study sites.

Using qualitative and quantitative methods, this study focuses on patients seeking health care as well as those who provide health care routinely at clinics and hospitals and in emergencies. The focus of interest was transport needs and services and its role in patient access in the context of HIV/AIDS and TB epidemics.

Findings of this study confirm research undertaken in other developing contexts. They show that in rural and some remote urban settlements, transport is a serious barrier to equitable access to health care. Race and locality combine to generate a hierarchy of access to care in South Africa. The study concludes that there is a need to reallocate resources in the health sector in order to increase access. Transport needs have to be taken into account when access to services is planned. And alternative models of health care provision in the context of the epidemics have to be conceived, emphasising the provision of well-equipped and resourced primary health care facilities.

Preface

Except where otherwise specified in the text, this dissertation is my own original work and has not been submitted in part or in full to any other university.

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Acronyms

ATC	: Assessment and Therapy Centre
CDC	: Communicable Disease Clinic
DHS	: District Health System
DoH	: Department of Health
EMS	: Emergency Medical Services
LCHC	: Local Community Health Care Centre
LDHs	: Local District Hospitals
NDoH	: National Department of Health
NHS	: National Health System
PHC	: Primary Health Care
PHS	: Public Health System
PTVs	: Patient Transport Vehicles
RH	: Regional Hospital
TB	: Tuberculosis
THs	: Tertiary Hospitals
WHO	: World Health Organisation

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Chapter 1
Introduction

1.1 Context

The responses to public health epidemics in any given society are determined by several factors. Of particular importance is the role of the state and its capacity to act, pre-existing health and social services as well as the nature and depth of social inequalities. In South Africa the HIV/AIDS and the Tuberculosis epidemics impact on a society in which poverty is endemic affecting more than 40% of the population (May 1998). The evidence of poverty also is seen in the public health system, where more than 80% of the population depend on public health care (South African Health Review, 1999:70) for their basic health care requirements. This high demand puts pressure on health delivery access, efficiency, quality and equality.

The White paper for the transformation of the health system that sets out the reform of health care was released in 1998. In order to reform a racially segregated health service delivery system and improve health service delivery to the poor people, the South African government developed a hierarchical public health system (PHS) which moves from primary health care providing mass access to the more specialised service with high technology, intensive specialist care. The referral of patients from the bottom to the top of the system depends on the type and stage of illness as understood by the medical staff. In this system of health delivery, referral of patients is an important link in the health care chain. The system aims to cut out wastage of resources and assumes that people will move easily through the tiers, according to their needs (White paper on South African Health Care, 1998:06). The system also aims to unify the fragmented health services at all levels into a comprehensive and integrated National Health System (NHS).

The referral system was initiated in 1995 by the National Department of Health (NDoH) as part of the formation of the District Health System (DHS) which forms the foundation of health care in South Africa (South African Health Review, 1995). Each province has to implement this system by dividing its hospitals and clinics into a hierarchical service. In the tiered health delivery system in Pietermaritzburg and the Midlands region, which is the site of this study, local clinics provide primary health care. The Northdale and Edendale hospitals are designed as local district hospitals (LDHs). Greys hospital is

designated as a regional hospital (RH), while Wentworth and Richmond hospitals, which specialises in chest diseases, are tertiary institutions. There is also a tuberculosis clinic in the city centre so that patients do not have to always travel to Richmond unless they need admission.

The referral system assumes that the movement of patients to their destinations (places of referral) is unproblematic and takes the available systems of public and private transport as given. Transport is any aspect of the physical movement of people and goods from one place to another by any means over any distance for any reason. The South African White Paper on National Transport Policy (1996) states that transport systems and planning available will provide a basis for transport to play a more strategic role in social development and economic growth. The National Transport Policy further stipulates that the government aims to enable customers (transport users) transport choices which best satisfy their needs (Ibid).

The focus of this study is on transport and its role in a tiered system of health service delivery, which uses patient referrals. The study looks at the influence of available transport systems in patient referrals and ultimately on health care access through case studies of patient referrals and Emergency Medical Services.

The first level of health care that provides primary health care (PHC) is Local Clinics (LCs). Primary health care is the first level of contact a (prospective) patient has with the formal health care system. In South Africa primary health care is provided by nurses, sisters and community health workers. This means the patients have direct access to primary health care, unlike other levels of health care, where patients need to be referred by a health professional. Primary health care provides basic services by doing four things - examining the patient, diagnosing the ailment, providing initial treatment or advice where appropriate and, where not, referring the patient to a higher level of health care in the hierarchy. Primary health care was pioneered and prioritised by the World Health Organisation (WHO) as a route to improve health for all (WHO,1978). From the WHO perspective, PHC includes not just medical services, but also education about basic sanitation and disease preventative measures. PHC is linked to higher levels of health care through referrals. The important issue to note is that should a patient seek treatment at a higher level in the system without starting at the bottom, the patient will be turned away without help, underscoring the importance of referrals in the public

health care system.

> "The reformed health care system adopts the Primary Health Care approach because this approach is the most cost effective means of improving the population's health" (White paper on South African Health Care, 1998).

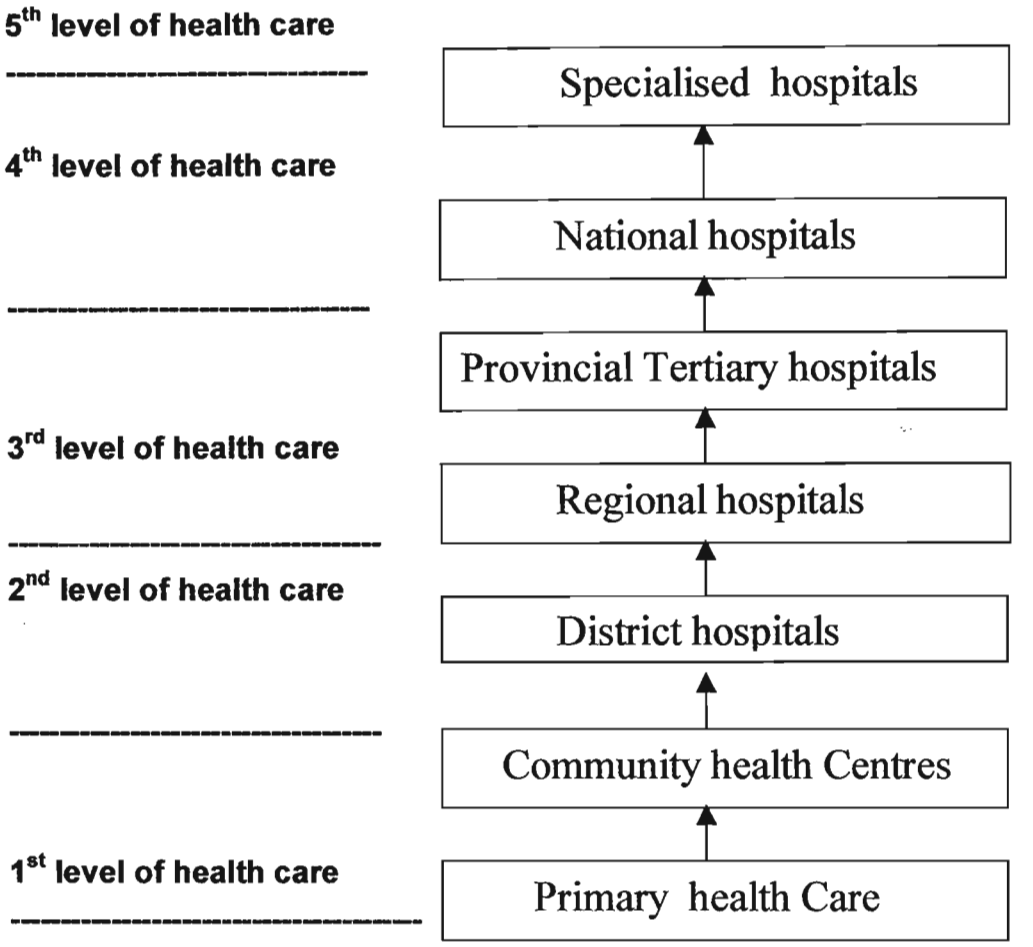
The second level of contact a patient has is the Local Community Health Care (LCHC) facility. Imbalenhle clinic is designed as a LCHC. The Local Community health Care services are provided by nurses, sisters, community health workers and one or two doctors. The LCHCs receive referrals from the local clinics. Where the LCHC cannot help, it refers the patient to a higher level of health care.

The third level of health care is the Local District Hospitals (LDHs). LDHs receives referrals from local clinics and from local community health care centres. Where the LDH cannot help, it refers the patient to a higher level of health care.

The fourth level of health care is the regional hospital (RH). The RH receives referrals from local district hospitals. If the RH cannot help the patient, the RH refers the patient further, to the highest level of health care.

Tertiary hospitals (THs) are the pinnacle of the system, the fifth and final level of public health service provision. Tertiary hospitals are equipped with high technology and specialists and provide very expensive health care. Tertiary hospitals attend to critical illnesses, major injuries, heart attacks, etc. Very few patients are able to access this level of health care due to the costs involved.

Figure 1: The diagram of the South African public health care hierarchy



1.2 Aim of the study

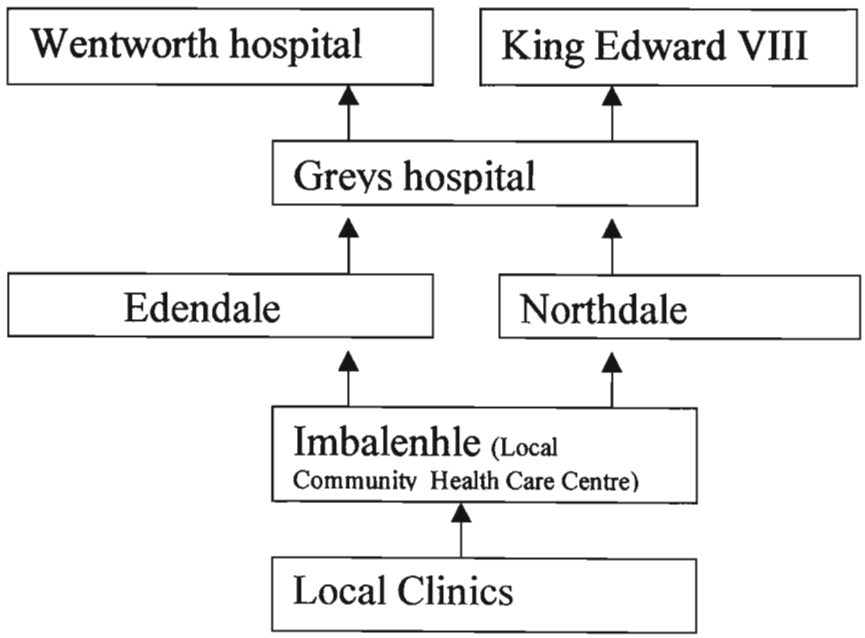
In a hierarchical health care system transport is a critical link to ensure access, equality and appropriate health care service. For a system based on hierarchical access to health care to work, both correct diagnosis and the efficiency of the referral systems are critical. For this system to work effectively there is a need for accurate identification of ailments, staff confidence in the system, appropriate and affordable transport, good communication and administrative competence across different levels of the service delivery. Furthermore, a willingness to keep patients in the system is also necessary, an issue greatly affected by referrals.

The aim of this study is to focus on one aspect of this system, namely the influence of transport on patient referrals and its implications for access to appropriate care.

1.3. Hypothesis.

The HIV/AIDS and Tuberculosis epidemics aggravate the already high demand for health care. The treatment of opportunists infections that are typical in HIV/AIDS as well as sustained demand for TB treatment is likely to impose a serious pressure on the need for health care and a rise in the practice of referrals. It is hypothesised that referrals will expose existing limitations in the available transport system to meet the health care needs of the general public.

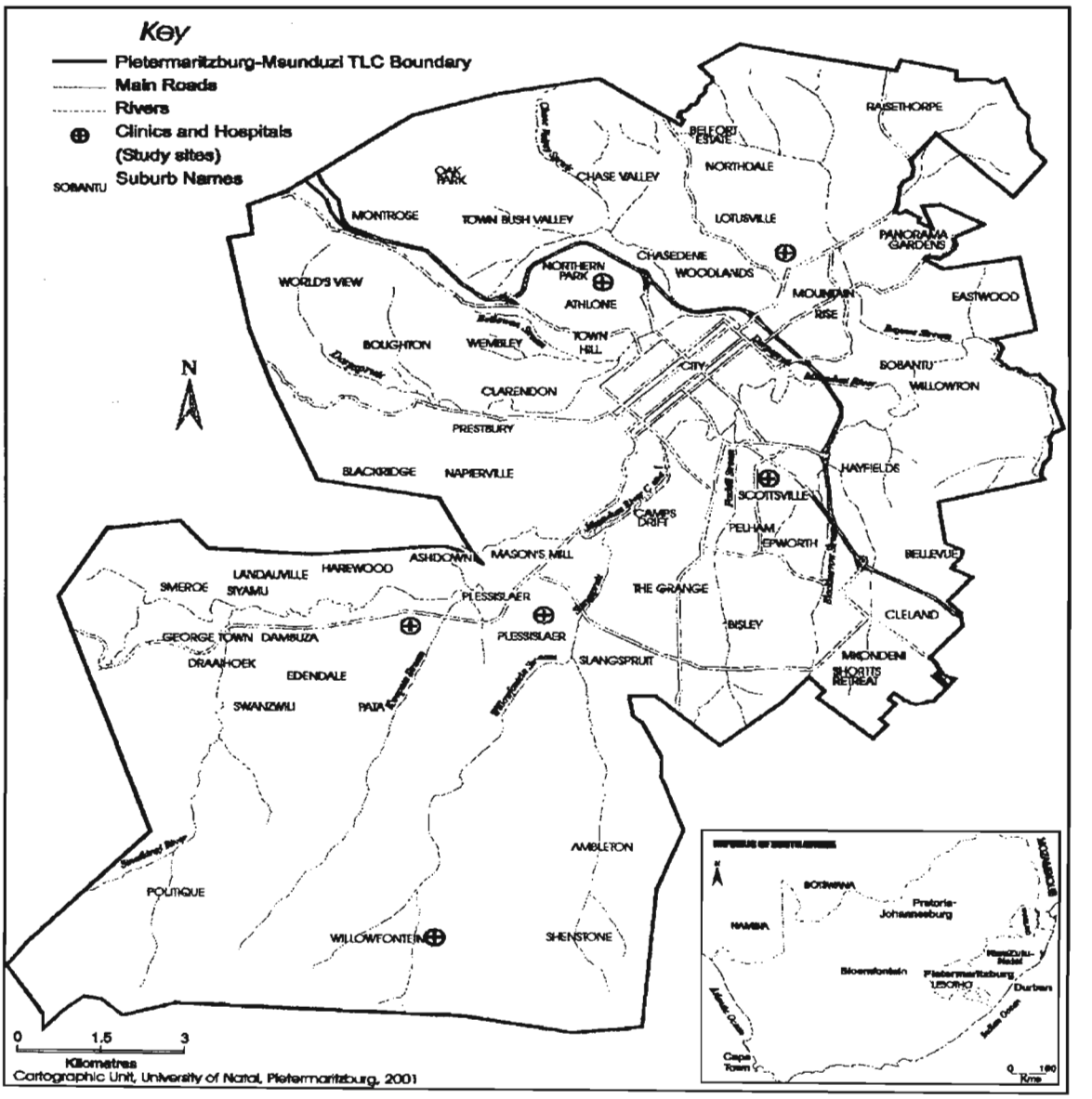
Figure 2 : The diagram of the Pietermaritzburg and Midlands health district hierachy



1.4 Description of the study sites.

The study was carried out in the greater Pietermaritzburg region, as depicted in the map below.

Figure 3: The Map of the study sites



1.4.1 The Ambulance and Emergency Medical Services (EMS).

The EMS providers in the study area cover three districts – Pietermaritzburg, Greytown and Ixopo. They are known as region B. In other words they serve everybody from the city centre up to Hammarsdale and the entire Midlands region. The EMS is headquartered at Greys Hospital and they have substations at Edendale Hospital, Imbalenhle clinic and at Howick main clinic in the city centre.

The EMS has ten vehicles per shift, to serve all the designated areas. They have a total of 120 staff members of whom 24 are on duty at any given time. Staff shortage is a key problem which means that routinely, they have to work overtime. While they are able to upgrade and develop specialist skills, they are also overworked and underpaid, working long hours under highly stressful conditions.

1.4.2 A description of the three selected clinics.

For this research, a survey was conducted with patients (clients) at three clinics - the Scottsville clinic, situated in a suburb, the Imbalenhle clinic, which serves people in a peri-urban area settlement and the Willowfountain clinic, which serves people in a rural area. The rationale for choosing these three clinics was to look at differences that may arise in terms of the ease of access, and the availability of resources in different locations, with respect to transport needs.

1.4.2.1 Scottsville clinic.

Situated at the junction of King Edward and Oribi roads, behind the University of Natal in Pietermaritzburg, Scottsville Clinic is in an established suburban area in the city. The clinic serves mainly Scottsville residents and workers as well as residents in the neighbouring suburbs of Oribi, Bisley, Southgate and Hayfields. The clinic is well resourced with eight staff members and well equipped, with general facilities. Scottsville Clinic is very relaxed and opens at 08h00 and closes at 15h00. There are no long queues and the service is efficient and quick. The Scottsville clinic provides primary health care and then makes referrals to Greys, Edendale and Northdale hospitals.

The majority of people attending Scottsville Clinic (about 95%) walk 5 kilometres or less to reach the clinic, making it locally accessible on foot as defined by the Department of Health's Policy (Department of Health, Communications department). While the clinic is

located within walking distance, ironically car ownership is very high among the majority of its clients. Out of 51 respondents, 50% (n= 26) have their own vehicles. In such a context, the cost of travelling to access health care is not very high, especially when compared to people in poorly resourced areas. Private car ownership and access also makes it easier for the people to move up the health care hierarchy when they are referred to another level in the health care ladder. Transport is not perceived as an inhibiting factor because clients can walk or they can choose to use their privately owned vehicles.

1.4.2.2 Imbalenhle clinic

Imbalenhle Clinic is situated at Imbali unit 3, about 15kms from the city centre towards Edendale. The clinic serves communities from all over Imbali Township, Willowfountain and all the greater Edendale areas. This clinic provides primary health care and some specialist services and is designated as a Local Community Care centre, according to the health care hierarchy. The clinic has about 30 medical staff, with some additional staff serving on a part time basis. The clinic also has about 10 community health workers who come to assist in the clinic and then visit and provide home-based health care to the aged and the ill, including those who are HIV positive. Although this clinic is huge it is still under a lot of pressure due to the large number of people it serves. The majority of the clients attending this clinic walk or commute using hired transport services. Only 24% of the respondents interviewed at Imbalenhle own cars in their families. Most of the respondents travel more than 10km to get to the clinic, mainly by walking (69%) with a small proportion using "public" transport (7%). This clinic opens at 08h00 and closes at 15h00. Most of the clients have to leave home at 05h00 to get to the clinic in time to be at a point in the queue which will allow them to be seen by medical staff. There are long queues, especially on Mondays and Tuesdays. The clinic attends to referrals from all other smaller clinics in the greater Edendale area. If this clinic cannot assist, it refers to Edendale, Greys and Northdale hospitals.

1.4.2.3 Willowfountain clinic

The Willowfountain Clinic is situated at Willowfountain, a rural area which is about 20 kilometres from the city. The clinic serves about 12 areas of Willowfountain. The clinic itself is situated in the area called kwaBhakabha. It is a very small clinic with 6 rooms including the waiting area. The clinic has four staff members - 3 nurses and one administrator. Willowfountain clinic provides primary health care. To access specialists,

referrals are used and sometimes (once a month) specialists come to serve in this area. The clinic is under pressure on all days of the week, but Wednesdays and Thursdays are the busiest. The clinic is extremely under-resourced, lacking medical equipment, staff and general infrastructure. Lack of medication and equipment generates a high rate of referrals, with staff sending patients facilities that are better resourced, like Imbalenhle. To attend Willowfountain Clinic clients have to travel as far as 10 to 15 kilometres, mostly on foot (77%) and less frequently with the help of "public" transport (14%). Car ownership among clients is extremely low, with only 6 out of 69 respondents owning cars in their families. Poverty is high in the area. People live in mud-houses and unemployment is endemic. There is a lack of basic infrastructure in the area. Travelling to town or outside the area is costly and inhibits or reduces trip generation.

A brief overview of Tertiary and specialist services in the study area

1.4.3 Edendale Hospital

Situated 10km from the city centre, this hospital serves all areas in the greater Edendale and many areas surrounding Pietermaritzburg. Although this hospital is large, it suffers from severe pressure both because of the high demand for health care and because of shortages of the necessary medication and equipment required to help their clients. The hospital has 1193 beds, with 100% occupancy rate most of the time. In terms of staffing, it has 116 doctors' posts but not all of these have been filled. The hospital has 300 nurses and about 1500 cleaning staff. The hospital faces staff shortages, a shortage of medication, overcrowded wards, long queues and inefficient service. Currently the hospital is reducing the number of beds and admission of patients due financial constraints. In so doing it is shifting the burden of care back to local and primary health care services which are already under strain.

1.4.4 Greys Hospital

Greys hospital is the main hospital in the Midlands of KwaZulu-Natal and is defined as a regional hospital in the health care hierarchy. Situated 5 km from the city centre, this hospital provides specialist services and also receives referrals from Edendale and Northdale hospitals as well as from local clinics. Greys hospital is well equipped with specialist equipment and personnel which provide high tech service. The hospital has a total of 1800 beds, with about 80% occupancy rate most of the time. With regard to

staff, the hospital has about 160 doctors, including part-time specialists, 400 nurses and 1600 cleaning staff.

1.4.5 The Assessment and Therapy Centre

The Assessment and Therapy Centre (ATC) is situated in the Northdale area of Pietermaritzburg. This centre has highly specialised technology and about 20 medical staff members. The ATC takes referrals from doctors, social workers and nurses as well as from the local clinics. The centre assesses disabilities and treats illnesses. The centre deals with lungs, heart, joints, hearing, head injuries, heart attacks, burns and skin diseases. Users are charged for ATC services based on their income, with the unemployed and poor being charged the least or nothing, depending on the total cost of the service.

1.4.6 The Tuberculosis Clinic

The TB clinic is situated in the city centre. This clinic deals with TB patients who have been referred by their local clinics. The clinic has a total of 6 specialist doctors and medical staff with well equipped facilities. Previously, all TB patients were referred to Richmond chest hospital. The inner city clinic was opened so that patients needing attention would do not have to travel to Richmond, unless they were in need of admission. The TB clinic conducts regular check ups of TB patients and gives medication.

Chapter 2
Literature review

A point of departure for this study is that the literature on patient referrals as well as transport is very limited, especially in the South African context. From what is available, it has been possible to extract the following issues with regard to public health care, referrals and transport.

While health care is only one of the determinants of development in a country, access to health care services is of a great importance to any society.

> "Poor access to health services means people will remain unhealthy, children will die, and any epidemic will be likely to have a catastrophic results." (WHO,1997: 15)

Since the majority of the people rely on public health system (PHS) there is a need to make the service more effective to meet the existing and expected demands of care. The new tiered health care system, which aims to achieve efficiency and effective service delivery, is accompanied by certain assumptions about how societies are organised. The new system assumes that the existing transport will allow patients to move easily through the tiers. The evidence of this is seen from the slogan of the Department of Health (DoH) which refers to an "Integrated, co-ordinated service" (Department of Health Policy Document, 1998). Without an effective transportation system, referrals are unlikely to take place as desired and an integrated system is unlikely to be realised.

The contemporary government thinking on how should health care system look and function

The Department of Health's policy for the Midlands region, which in the policy document is referred to as Indlovu Regional Health Care policy, is a recent government strategy on health care delivery. This policy came into operation in 1999.

In intending to provide health care for all, the policy states that it must eradicate "unnecessary inefficiencies" in the health care system (DoH, 1998) by eradicating under-utilisation at clinic level and over-utilisation at hospital and specialist service

levels. It proposes to address this problem by ensuring that local clinics are well equipped with staff and medication so that people can access quality care provided by professional staff. As a service provider, patients are now to be considered as clients, which it is held will instill confidence in the system. To prevent under-utilisation and over-utilisation of health care facilities, clients will be able to access the required diagnosis or specialist service through referrals. Referrals allow for sharing of the limited resources and expertise available to the public health care system. Thus, clients move up the health care system according to the need as viewed by the medical staff. This ensures access to quality and appropriate health care and prevents under-utilisation of primary health care (local clinics) and the over-utilisation of hospital services.

Referrals are therefore an integral aspect of health care delivery in this context. For the referral system to work effectively, transport is necessary to enable to clients to move to and from the referral destinations. The need for transport provision to ensure that an "integrated, co-ordinated service" can materialise is recognised in the Indlovu Regional Council health care policy, which designates this function to ambulances and Emergency Medical Services (EMS). The latter have very delimited jurisdiction within this function, namely to service only cases of emergency. In the past, ambulances were called to transport clients who did not fall under Red Code (full emergencies) or Yellow Code (emergencies which are not life threatening) categories. Now, budget constraints which limit vehicles, personnel and funds coupled with "mis-use and over-use of the Ambulance facilities" (DoH, 1998) are given as the reason why this service has had to be curtailed. Within the new framework, the EMS only attends strictly screened calls.

The second transport provision facilitated through this policy are Patients Transport Vehicles, referred to as PTVs. PTVs are buses and mini-buses used for non-EMS referrals for clients. To access this service a client needs to be booked in one of the local hospitals in the Midlands region (Greys, Northdale and Edendale) which share these PTVs. PTVs are mainly used to service clients who are referred to facilities outside the region and their use for local referrals between facilities within the midlands is infrequent if not exceptional. The main reason given for this is financial constraints.

Aside from these to very limited transport provisions, the only remaining option in transportation terms that is envisaged in the document is where clients use their own transport to go to the referral destinations. In these cases, transport provision is viewed

to be "not the responsibility of the DoH" (Department of Health, 1998) and patients are encouraged to use their own transport or provide their own means of getting to the referral destination. This is the full spectrum of transport provision envisaged for accessing a tiered health care system.

At the same time, while making only very limited provision for the transport implications implicit in such a system, the policy document emphasises the role and the need to utilise primary health care as a first step to access and move up the system as the need arises. According to the policy, this emphasis is necessary because previously people viewed hospital health care as superior to primary health care. The new system is structured in such a way that it is hoped that quality services delivered at a primary care level will instill trust and confidence in clients, as consumers of the service. This is the rationale behind the Department of Health's efforts to drive health care provision through primary levels of service.

Van Rensburg et al (1992) argues that Primary Health Care is a very important level of health care because it is cheaper than hospital care and is more affordable to poor people. May (1998) argues that the South African health care is biased towards hospital-based, doctor-centred curative care which is expensive and not affordable to the majority of the poor people. This means the South African health care historically has a bias against Primary Health Care while international studies suggest that PHC is cheaper than hospital care, and often more acceptable to patients, given that it is more likely to be local, continuous and co-ordinated (Ibid).

The referrals and utilisation

Referrals are the movement of patients from one health institution to another as decided by the medical staff (Macintrye and Hotchkiss, 1999:173). Referrals take place because the facility initially visited cannot meet the needs of the presenting illness, there is a need for second opinions or expert and specialist care. While referrals takes place between different levels of health care from simple (Primary Health Care) up to advanced (specialist) services they do not only occur upwards. Patients are also referred downwards if the nature of the illness can be treated at a lower level. Referrals are the essential process through which "a co-ordinated, integrated and comprehensive service" that is organised around hierarchical expenditure efficiencies can be realised.

However, in practice, the referral system does not function effectively. As the World Health Organisation (WHO), 1978 has pointed out "Referrals are easy to design but extremely difficult to put into practice". Studies in African and other developing countries highlight numerous problems that hinder the objectives of a system based on referrals.

Macintrye and Hotchkiss, (1999) argue that referrals between different levels of health care in rural African settings are extremely problematic.

> "Poor service quality, low availability of trained personnel, inadequate supplies of drugs and medical diagnostic equipment and inadequate communication infrastructure, are examples of the problems" (Macintyre and Hotchkiss, 1999: 121).

Adding the paucity of transport in rural areas to these problems only further compounds the difficulty of making referrals work as desired. MacIntyre and Hotchkiss (1999) further argue that these problems are very common to community health facilities even in peri-urban and rural areas while urban health facilities are usually better resourced and more easily accessed.

A hierarchical health delivery system aggravates the impact of locality on health care. There are vast differences between rural and urban health centres with regard to the resources available.

> "In reality, community health facilities (rural and peri-urban) are often understaffed or under-funded, which makes people bypass their local clinics because a hospital pharmacy is more likely to have the medicine they need" (Schietinger, & Sanei,1998: 06).

Furthermore, the referral system makes certain assumptions about how society is organised. The referral system assumes that people (clients) are able to easily move from one point to another as prescribed by the medical staff. Reality looks somewhat different. Edmonds (1998) argues that "numerous problems often inhibit easy movement of patients through the tiers of health care", one of which is transport. Studies in Africa and Asia (in Edmonds, 1998:14) show that transport consumes a

major proportion of household time budgets and involves a considerable physical burden. Factors such as affordability and availability of transport play a determinant role in making or breaking a health care service built on referrals (Edmonds 1998: 14).

Macintyre and Hotchkiss (1999) argue that "previous research on the referral process shows that transportation costs and availability of transport is an important barrier to the utilisation of referrals." This means when the available transport system is costly, it inhibits people's willingness and ability to travel and then people will be less likely to attend all referrals as prescribed by medical staff, which in turn makes treatment of illness ineffective and unlikely to follow as planned. This in turn impacts on health care service performance.

More generally, where people spend a large part of their income on transport in order to access basic services, transport constraints become an impediment to service uptake. Edmonds (1998) suggests that it is very important to take transport issues into account when policy makers decide on priorities in the constant struggle to improve basic health care in resource poor environments.

Access and inequalities in health care

Another important problem in the South African health care is the fragmentation and inequality in access to services in a stratified society. Fragmentation occurs along racial and geographic lines. Race and locality are the determining factor of access. Tudor-Hart (in Scrambler et al 1997) argues that there is an inverse care law in the provision of health care. This means the provision of health care is inversely related to the need for it. This means there are poor facilities in rural areas characterised by poverty and high illness while there are better facilities in urban areas characterised by high standard of living and lower rates of poverty and disease. In South Africa, these disparities take on distinct racial, gender and age characteristics.

Another problem that impacts negatively on referrals is poor communication between different levels of health care. According to the model of referral as described by the Department of Health, when a patient is assessed for illness and referred, a referral letter is issued and given to the patient to hand to personnel at the referral destination. Tudor-Hart (in Scrambler et al 1997:35) argues that "a major criticism of medical care by both general practice and hospital patients concerns the lack of information and

explanations they receive about their illness and treatment." In most cases, health professionals underestimate the knowledge of their clients and end up not telling them why they put them on certain treatment or why they are referring them. They go to their destinations in the system poorly informed and dependant on others to determine their health outcomes.

The impact of HIV/AIDS and Tuberculosis epidemics

Poor health in any society results in negative social and economic consequences. Poor quality of health inhibits development and leads to high costs to try and cure the illnesses. When people of working age become ill, there is a negative effect on skills and labour force availability. In poor countries social and economic development will be severely frustrated because of the loss of labour, the undermining infrastructure due to the death of key people in the most productive years of their lives, and the enormous cost of care (Piot et. al, 2000:05). This negatively affects the economy. Households may also suffer as breadwinners get sick and are unable to meet the survival needs of their families. Many people with HIV/AIDS find themselves unable to manage financially due to loss of income, insurance and other benefits, threatening their ability to access quality health care, maintain housing and live an active social life (Andrews et. al, 2000:132). As more family income is channelled towards financing health care for the sick, this shift in household expenditure negatively affects individual well being as well as society at large. An epidemic worsens the situation because it puts severe pressure on a health care system that was unable to meet the previously existing demand for services.

The HIV/AIDS and TB epidemics

South Africa is in the grip of a TB epidemic which is running in tandem with the HIV/AIDS epidemic. It is estimated that the total number of TB cases will increase almost five fold by the year 2005 if there are no attempts to bring the disease control (Ibid), while about 40% of people with HIV/AIDS are also infected with TB (Department of health report by the National Minister of health, March 27, 2000).

The HIV/AIDS epidemic has particularly negatively affected sub-Saharan African countries, overshadowing the health and other development gains of the past half century. Together with the TB epidemic it is overwhelming existing health care resources, resulting to the deterioration of service provision and any prospect for future improvements. The WHO (AIDS series number 9, 2000:19) argues that "given the

many other priorities in health care, one can expect that national health care systems in developing countries with a high prevalence of HIV/AIDS will suffer from the burden and the quality of health care will decrease".

The cost of health care

The HIV/AIDS pandemic has serious consequences on the individual and national cost of health care, as well as on the economy of a country (HIV and Development Programme 2000). The cost of researching the cure, educating people about the epidemic, and blood screening, are examples of the burden of the HIV/AIDS epidemic on health care. Furthermore, HIV/AIDS adds to the pressure on hospitals and public health care institutions. The KwaZulu-Natal Department of Health (2000), for example, reports that about 40% of patients in medical wards in provinces' hospitals are HIV positive.

The HIV/AIDS epidemic negatively effects the distribution of government funds and priorities.

> "With the limited available health budgets, the HIV/AIDS makes it even more difficult for the government to provide quality health care, given the fact that other health and general priorities do not decrease." (Augustine et al 2000: 14)

The South African inter-governmental Fiscal Review (2000) reports that the epidemic has substantially increased the demand for health care and has also resulted to a severe strain to the health budget. The World Health Organisation (2001) reports that while it is difficult to estimate the exact amount that HIV/AIDS cost in developing countries, there is no doubt that these countries can never afford to spend so much on health care.

There is presently little research available on the impact of HIV/AIDS on a hierarchical system built on referrals, but it is likely to be negative in terms of expected derived efficiencies of differentiation and specialisation. The primary health care end is unlikely to meet demand as a more complex service is required from the very initial contact with the system. More people will be pushed upwards into higher levels of care, which in turn will have difficulty in meeting increased demand. And the more specialist facilities too

are unlikely to be able to cope as demands on their needs increase, particularly in respect of skin disorders, TB and other common opportunistic infections associated with AIDS (Marcus, T Personal Communication).

Since there is little difference between the incidence of HIV and AIDS in urban and rural areas, the geographic shape of the epidemic is also not likely to have a positive impact on the existing transport constraints. In fact, the epidemic is likely to simply aggravate affordability and availability issues that plague rural and peri-urban transport use, not least of all because many urban dwellers return to their villages of origin when they fall ill. In rural areas with poor health facilities, the demand for transport to access better-medical facilities may well rise.

While Whiteside and Sunter (2000) argue for a public private partnership to address this crisis, Wolffers (2000) suggests that non-governmental organisations (NGOs) can make a significant contribution towards solving the crisis facing public health care system.

> " A useful aspect of primary health care approach, especially where self-help groups, buddy systems, friends and relatives networks are set up, is that care for people with HIV/AIDS may become more affordable and accessible (Wolffers, 2000:16).

However, public health care should not use this approach as an argument to send people home – public health care should also take responsibility for providing health care (Ibid).

None of this talks to the role and place of transport in health care provision, even when this is provided at community level by non-governmental organisations, let alone the private sector. The problem of transport in service delivery does not go away with HIV/AIDS, it simply exacerbates already existing weaknesses (Marcus, T Personal communication).

Chapter 3
Methodology

This study combines qualitative and quantitative research methods and was carried out in three phases - a pilot study, quantitative surveys using 2 sets of structured questionnaires and case studies. In order to set the parameters of the investigation, an initial pilot study was done. This involved semi-structured face-to-face in-depth interviews with 15 key informants, amongst others senior hospital administrators, hospital superintendents, doctors, nursing staff in hospitals and clinics as well as emergency service providers.

From this information, quantitative surveys were designed and implemented.

A survey was carried out with 30 public emergency medical service personnel in the Midlands region. The respondents constituted a quarter of the total EMS staff complement for region B. In addition, I undertook participant voluntary service in the EMS to better observe and understand what they do and the conditions they work under.

A second survey was conducted with 200 clients at the three clinics selected for the study. Eighty respondents were interviewed at Imbalenhle, 69 were interviewed at Willowfountain and 51 were interviewed at the Scottsville clinic. The purpose of this survey was to establish the extent of referrals, the conditions under which referrals are made as well as to determine the influence of transport on referrals. Non-probability sampling was used to select respondents in both surveys.

Following on from the survey of clinic client referrals, 6 cases of clients who were referred elsewhere by primary health care facilities were selected and followed along the chain up the health care hierarchy. Their processing through the system and the costs involved were recorded in detail for a period of up to one month. These case studies were chosen by diagnosed illness at the primary health care and crude gender selection. Two cases from each clinic were followed through.

The initial plan of this study was to include Greys, Edendale and Northdale hospitals. At Northdale hospital senior hospital officials refused to allow access to the site and participate in the study. As a consequence they could not be included. By contrast,

senior management at Greys and Edendale generously agreed to give up their time and actively assist with the study.

The study was carried out over a period of six months, from August 2000 till the end of January 2001. The quantitative data was cleaned and coded and then captured and analysed using the Statistical Package for Social Science 2000 (SPSS). The qualitative data was analysed by selecting themes which came out from the data and analysing them. Where possible the findings across the study components were triangulated.

Chapter 4
Findings

It is proposed to present the data in the following sequence. Firstly, the findings from health professional key informants regarding referrals and their effectiveness will be presented. Thereafter, the survey of clients and their exposure to referrals will be looked after. Then I will present a description of referral as experienced by the six case studies. Lastly, I will look at the place and role of ambulance and emergency services in referrals and health care access in general.

The referral system

Health professionals define referrals as the transfer of patients to another level of health care for further investigation and expert opinion or treatment. Referrals take place when the nature of the illness is beyond the expertise and resources of the initial place visited for diagnosis. The main purpose of referrals is to get patients properly diagnosed and cared for. They are also used to ensure that resources are well used as every level of the health system cannot provide all levels of care. Referrals are intended, therefore, to bridge the gap between different levels of health care with each and every facility assigned a specific scope of work beyond which they are obliged to refer.

According to key informants, when the need for referral arises, patients are given a letter of referral to the relevant institution, or they are transported directly if they are at a critical stage of illness. The latter is regarded to be an exceptional service, mostly because there is an acute shortage of resources and vehicles to transport patients to referral destinations.

The decision to make referrals is taken by doctors and nurses (matrons and primary health nurses). In cases of uncertainty, the junior primary health care nurses seek advice from doctors and senior nurses.

All facilities from clinics up to hospitals have a referral screening process. The type of the screening that takes place differs according to the extent to which the particular institution is resourced. Thus, for example, patients are screened through physical examination and patient enquiry at the Willowfountain clinic. The clinic has no technological services to support it further. For X-rays, blood or other tests, patients are

referred to other health centres like the Imbalenhle and Scottsville clinics where they can do most tests and screening. In other words, being poorly resourced increases the rate of referral even for lesser ailments.

The system of referrals is seen to have some advantages. In the words of a hospital Senior Superintendent, "Referrals enable us to specialise our service delivery. In this way we achieve efficiency and effectiveness " (Key Informant, Imbalenhle Clinic). Referrals enable the sharing of the limited resources since medical technology is expensive. In turn this helps the Department of Health lower service provision costs. Referrals also are said to provide for continuous treatment, fulfilling the "co-ordinated, integrated and comprehensive service" mission of the Department of Health. This is then the stated objective of referrals.

In practice the system works differently. Health professionals report that patients are very reluctant to take up referrals. They say that patients need to be given very good and clear accounts of the benefits of following through on referral. But even when such explanations are given their financial circumstances and particularly, the cost of transport are prohibitive. Both money and transport are the main factors why patient default is reported to be very high. Under such circumstances, health professionals generally find it very difficult to determine whether patients will follow through on referral suggestions, should they make them.

The main factors that health professionals take into account before making a referral is the nature of the illness and the place where appropriate treatment can be found. The transport and financial status of patients are also considered, although only sometimes and these are not held to be equal to the health care needs.

Limited resources in a context of high demand for health care also means that referrals can be used negatively. Health professionals report that referrals are used sometimes to chase people away or to pass the problem on, without attending to patient needs.

The HIV/AIDS and TB epidemics

By their own accounts, all health professionals interviewed report that the HIV/AIDS and TB epidemics have had a huge impact on the demand for health care. According to one informant, during the 12 months prior to the interview, more than half the patients in local

hospital wards had HIV/AIDS related illnesses. The link between HIV/AIDS and TB has also become evident from the patients they diagnose. The demand for health care is reported to have doubled within a short space of time and is rapidly rising as the epidemic moves from HIV to AIDS and patients succumb to opportunistic infections, chronic illness and death.

As health professionals, all key informants interviewed in this study say that they always refer patients to the appropriate health care institution without discrimination regarding their HIV status. However, knowledge of the HIV status of the patient influences patient health management. Generally, HIV/AIDS patients are referred to the communicable disease clinic (CDC). However, if patients are terminally ill they are not referred nor are they sent home, if the present at hospitals. Rather, they are kept in wards until they die, even though this puts tremendous strain on bed space and services. Under such circumstances, health professionals choose not to use expensive medication, especially if the chances of saving or prolonging their lives are low. Referrals in the context of HIV/AIDS do little to relieve the strain on institutions that do not specialise in the identified presenting disease.

Another problem that negatively impacts on referrals is absent or weak communication links between different institutions in the health care hierarchy. Key informants say that often patients are not given referral letters. Also no attempts are made to pre-book appointments, forcing patients to the back of the queue at the next health care site as if they had just entered the system, and critical information about patients is often not made available in time. The prerequisite of an effective referral system - that lines of communication between different levels of health care provision are clear, open and efficient - is missing from the system in many instances at present.

Under such conditions, health professionals interviewed suggested that more clinics and the better equipment of existing clinics – in terms of personnel, medication and equipment - are essential if the delivery of primary health care for all is to be effective and for the system of referral to work in the way it was envisaged. They suggest that the issue of patient transport costs needs to be factored in to the way access is understood.

Access, Service and Referral – The experience of clinic clients

The next section sets out to examine client's experience of the service at clinics and their exposure and response to referrals. These findings draw from the data collected at all three clinics.

Demographic and familial background

Among the 200 clients interviewed, the majority (79%) are females and 21% (n =43) are male. Racially, the majority of respondents (96%) are Africans, five respondents are White, two are Coloureds and only one respondent is an Indian. Respondent's age range between 10 and 77 with the average age of 30.

Most respondents (55%) are literate with secondary education, with 11% illiterate and 23% reporting incomplete primary education. The remaining 11% have tertiary education.

Just over half the respondents (51%) were born in KwaZulu-Natal, and 43% are from Pietermaritzburg itself. The remaining 7% (n = 14) come from other provinces. In terms of their current place of residence, all respondents live in Pietermaritzburg with 34% (n = 69) living at Willowfountain, 30% (n = 60) at Imbali township and 11% (n = 22) live in Scottsville. The remaining 26% (n = 52) live in dispersed areas around Pietermaritzburg such as Elandskop, Camperdown, Catoridge, Eastwood, Mpophomeni, etc.

Respondents live in large families averaging eight members. Most respondents (73%) are unemployed, with only 26% having some form of part time or casual work while two were self-employed. Seven percent were scholars. 19% (n = 38) are either principal breadwinners in their households (n = 16) or earn to meet their personal needs (n = 22). Eighteen respondents describe themselves as secondary breadwinners while just over half (52%) make no contribution to family income. With regard to car ownership three quarters of the respondents (n = 150) do not own vehicles and only the remaining quarter of the respondents own vehicles.

Access to health care

Respondents in this study describe their health status in different terms. Forty -two percent describe themselves as either healthy (n = 58) or very healthy (n = 26). Thirty

four percent (n = 68) describe themselves as sometimes healthy and sometimes sick while the remainder (28%) describe themselves as either sick (n = 38) or very sick (n = 18).

Asked for the reason for visiting the clinic on the days of the survey, 34% said they came to attend to occupational health problems, more than half (55%) were there for family planning while 20% have visited for vaccines and antenatal care. Six respondents came to attend to skin rashes, two came for sexually transmitted disease treatment and the remaining one respondent was visiting the clinic for HIV testing.

Transport

Respondents in the study were asked how they got to the clinics on that particular day. The majority of respondents walked (63%), 23% used public transport and the remaining seven hired private vehicles from their neighbours. Only one respondent was transported by an ambulance due to critical illness. Overall, they said they had to travel an average of 10 kilometres to get to the clinics, taking them anything up to three hours to reach the facility.

They identified both transport availability and affordability as a key problem influencing their access to and uptake of health care. This, especially as some travelled as much as 16 kilometres to reach their nearest primary health care clinic. Other problems identified by respondents at the facilities included inefficiency, overcrowding, staff shortages, shortages of medication and other resources, late opening as well as impatient staff. These complaints emanated mostly from people attending at the Willowfountain and Imbalenhle clinics.

Respondents at Willowfountain and Imbalenhle clinics (77%) all said these problems plus the number of people needing attention meant that they had to wait in long queues, for up to the whole day before getting the desired service. By contrast, those attending at Scottsville (23%) generally received immediate service on arrival.

Experience and perceptions on referrals

Asked if they had ever experienced a referral, only 27 % (n = 54) have been previously referred to other health centres from their local clinics. They had been sent to various facilities including Edendale, Northdale and Greys hospitals, the Assessment and

Therapy centre, the Tuberculosis clinic in Pietermaritzburg and Wentworth hospital in Durban as well as to other specialist clinics and health centres in Pietermaritzburg e.g. psychiatrists. While many did not know why they were referred, those that did gave two main reasons - to get specialist care (n= 30), because there was a lack of appropriate medication and facilities at the local clinics and because there was a need to be admitted to hospital (24). To reach their facility of referral, 66% used public transport, 13% either hired a private vehicle or used relatives' or neighbours' cars and 15% walked. Only 6% were transported by ambulance. Asked if they had ever failed to follow a referral through. 13% of the respondents who had been referred said they had failed mainly because they did not have the money to travel the facility or they stopped feeling too sick or because they knew the conditions at the referral destination to be poor.

Asked about the quality of service they found at the facility they were referred to, two fifths said that it was poor because either they were sent back to get referral letters (15%) or they had to wait for many hours, even returning home without being seen by staff (22%). For nearly half of the respondents (48%) their experience of referral was positive, with them saying that they received a good, appropriate service and immediate treatment which cured their illnesses. 31% (n = 62) had to report back to their local clinics after the referral because either they were still sick or were told to do so for regular check ups or to collect additional medication.

Generally, the level of satisfaction with referrals was fairly high, understood in terms of treatment outcome. Only 14% of those who had been referred said that the experience was a negative one which cost them money, wasted their time and did not help their ailments.

While this survey gathered patient experience of referrals retrospectively and non-specifically, the next section specifically sets out to describe the experience and outcome of referrals as they happened, through six examples drawn from the three, respective clinics.

Referrals – Six Case Studies from the Clinics

Two TB referrals from Willowfountain

Two patients diagnosed with TB were selected from the referred patients at Willowfontain. One was a 42-year-old man and the other a 56-year-old woman. They

both lived at Willowfountain and both were referred to the Tuberculosis clinic in Church Street, in the city centre. The TB clinic falls under the tertiary health care level. Their first visit to the TB clinic was for further investigation by a specialist doctor and for prescription of medication. Following initial examination and medication, they both were told to attend the TB clinic twice a month for observation and to get further, regular medication.

The man is an unemployed father of four children. On two occasions he failed to attend the TB clinic for a check up and to get drugs, because he had no money (taxi fares) to go to town. He then only visited the clinic when he became sick again and was sent back to the local clinic to get referral letter, so he had to start from the bottom. At the end of the two months that I observed his progress with respect to the referral, this patient was still attending the TB clinic and was still very ill. He said he had spent about one hundred rands getting to and from the referral. As he explained his predicament,

> "It is just difficult to get so much money since I am unemployed. That money could have bought food for my children, but I could not do anything because I also want to get better." (Case Study Male, Willowfountain).

I also observed that although appointments are made for the patients at the TB clinic, the process is lengthy because about 300 people attend the clinic each week. This means patients have to wait patiently in the queue for their turns. On one occasion, this respondent spent four hours at the clinic before seeing a doctor. He then had to wait about another hour in a queue to get medication. Asked about how he felt about the process, the patient said he found it very frustrating, because it consumed a lot of time and money while he could not see that much improvement in his health. Asked if he would go through the process again if necessary, the patient said that it was difficult for him to say since he battles to afford taxi fares to travel to and from the referral.

The 56-year-old woman patient referred to the TB clinic attended regularly, except on two occasions. Once she forgot the date of the appointment and the other time she did not have money for transport. At the end of the two months that I observed her, she reported to be feeling better and was not coughing as she did initially when she visited the clinic. With the appointment made, the maximum time she spent at the TB clinic was four hours, because she woke up at 05h00 in order to be at the front of the queue at each visit. She estimates that she spent about R80 on travel to attend over the two

months, and that she found travelling to be expensive and difficult with the taxis. She faced the same dilemmas that confronted the male TB referral patient. In her own words,

> " I am unemployed and have to take my money, which could buy food for my grand-children, and spend it on taxi fares". (Case Study, Female, Willowfontain)

But while she expressed unhappiness about the costs of travelling to the service, suggesting that a mobile TB clinic would be a better way to come closer to communities, she felt her costs and effort were worthwhile, because "life has no price". She said she would do it again if necessary, because it gives her access to medication and doctors which is not available at Willowfountain clinic.

Two patients from Imbalenhle Clinic: One TB patient and one heart patient

At Imbalenhle clinic, two patients were selected and followed up. The TB patient is a 25 year old unemployed man from Imbali unit 3. This patient was referred to Edendale hospital. After a check up and diagnosis at Edendale hospital, the patient was referred back to Imbalenhle where he gets medication once every month for a period of six months. The patient reports that the process has been smooth and easy because he walks to the clinic and to Edendale hospital and there are no transport costs. His only problem is the length of waiting time at the clinic. Even though the appointments are made, all patients have to wait in the queue for medication.

> "I have to wake up as early as 5h00 if I want to be at the front of the queue, otherwise if I come to the clinic at 7h00, I will have to spend the whole day in the long queue before getting my medication" (Case Study Male Imbalenhle).

The patient is satisfied with the treatment and says he would not have a problem to go through the process again if necessary.

The second referral patient from Imbalenhle clinic is a 37-year-old woman who suffers from a heart disorder. This patient was referred from Imbalenhle clinic to Edendale hospital. She visits Edendale hospital twice a month for observation and medication. She is able to walk to the hospital because it is relatively close to where she lives, that is four kilometres away. The patient declined to undergo an operation and therefore needs regular medication to sustain life. Having suffered a heart attack, she receives a disability

grant. She has no dependants. Generally, she is happy with the medical care she has been given and the process of referral and reports that she is feeling much better. Her only problem, as with the man referred to Edendale hospital, are the queues. She reports that they are long and the nurses are impatient and rude and seem to give preferential treatment to their friends and relatives, allowing them to jump the queue.

Two patients from Scottsville Clinic: One TB and one skin rash patient

From the Scottsville clinic, one TB patient and one patient with skin rash were followed up. The TB patient is a 46-year-old woman living in Scottsville. The patient works as a domestic worker and lives at her place of work. For the initial visit, she went to the Scottsville clinic and was then referred to Church street TB clinic. To go to the TB clinic her employer takes her by car although she also sometimes walks as it is only about four kilometres away. After the six visits in two months she feels better. Her travel and access to the clinic has been very smooth since her employer organised everything for her. The patient reports to have spent about R30 over the two months, for which she was compensated by her employer. The maximum time the respondent reports to have spent at the clinic is an hour per visit. The respondent reports to be happy with the process and say she would do it again if necessary because it is helpful to get her to the specialist service needed.

The second referral patient from the Scottsville clinic is a 52-year-old woman suffering from skin rash. She is unemployed and has 5 children. She lives in Oribi. This patient was given painkillers and referred to the Assessment and Therapy centre, which is situated in Northdale. On arrival at the therapy centre, the patient had to wait in a queue since she had no appointment. Finally she was seen by a specialist skin doctor who diagnosed and treated her. The patient paid four visits to the therapy centre, twice a month. She has waited up to four hours to be attended to on any one visit, depending on the pressure on that particular day. Mondays and Wednesdays are the most hectic days, according to the staff at the clinic. The patient reported problems of communication between the clinic and the therapy centre. This related to when she was expected to go for the next visit and that the clinic did not make an appointment for her. She also had problems with transport - high taxi fares, uncomfortable conditions in a taxi and being dropped far from home. Finally, she felt that the referral was made more difficult because of the long waiting time to be attended to at the centre, given the number of people needing attention.

"I have spent my whole day here today." (Case Study Female, Scottsville)

This said, she generally felt happy that she had received the necessary specialist service that her local clinic does not provide. Asked about doing this process again if necessary for the same illness or the other, the patient say she can do it, but the only problem would me money for taxi fares.

Generally, what these case studies show is that transport costs deeply influence service accessibility. Treatment compliance is influenced most forcefully by the costs of transport, where people have to pay to reach the referral destination, especially when they have dependants and are forced to make choices about the use of their limited resources. What also comes through is that referrals are not once off events, and that continuity of service and access to medication requires that people in need of more specialised care have to make repeat visits to the referral facility. Under such conditions costs are cumulative and are likely to negatively impact on treatment adherence over protracted periods. Observation of the six people undergoing referral occurred only over two months, which for TB patients represented only a third of their expected treatment programme. One of the factors influencing compliance with protracted medication and monitoring treatment regimes such as TB, it would seem, is the cost of transport to service facilities.

So what has happened to the depleted ambulance and emergency services ?

The Ambulance and Emergency and Medical Services (EMS) in Region B.

Emergency and Medical Services are defined as those services offered by mobile casualty units that use ambulances to attend at emergency scenes. Within the region there are both private and public emergency services. While privatisation in the sector has met some of the needs where clients can afford to pay, it is also felt that the demand for public EMS continues to remain high simply because they serve poor people. 95% of the public EMS clients are Africans with low income who cannot afford private emergency medical services. While these services do not attend to routine referrals, they are integral to accessing the health care system in the context of emergencies.

Generally, state EMS offer three services – rescue, advanced life support and communication. Communication personnel deal with calls at a call centre. They screen all calls and categorise them into red and yellow codes. Red code calls are full emergencies, like gunshot injuries and motor-vehicle accidents. Rescue personnel are required to speed to the incident. Yellow code calls refer to emergencies where there are complications that might lead to death. In these cases, rescue personnel are not required to speed to the scene.

The Ambulance and Emergency Medical Services of the Pietermaritzburg and Midlands region has a total personnel complement of 120 people. The majority (80%) is men and racially half the workforce is Indian, 30% is African and 20% is coloured. About half the EMS personnel are basic ambulance officers and 40% are intermediate or sub-regional officers and communication staffers. Only 6% are high skilled life support officers.
Of the 30 staff members interviewed, 25 are men and five are women. Further, 19 are Indian, 8 are African and the remaining two Coloured. Respondents range in age from 24 and 42 years, with an average age of 32.

All respondents are literate and most have matric (n=9) or post-matric, non-university further education (18). Only three have incomplete secondary schooling. Most respondents were born in KwaZulu-Natal (n=26), and more than half are from Pietermaritzburg itself. The remaining four come from other provinces. In terms of their current place of residence, all live in Pietermaritzburg with the exception of one respondent who commutes from Howick on a daily basis. They live in families with an average size of five members. Eleven respondents describe themselves as principal breadwinners. The remainder are either secondary earners in their households (n=12) or earn to meet their personal needs (n=7).

In terms of specialisation, just over half (n=16) work as basic ambulance officers. Five are rescue officers, five are intermediary ambulance officers and the remaining four work as advanced life support officers.

Work experience, conditions and perceptions

Respondents in this study have been working for the Emergency Medical Services from between 6 months and 7 years. Two thirds (n=20) have been working in the services for between 2 and 6 years while 10 have worked for less than a year and have just

completed their training.

Before joining the EMS, 13 respondents were employed in cleaning and maintenance, administration, nursing, and as labourers, 9 were unemployed and the remaining 8 were scholars who joined the unit after leaving school.

With regard to the specialist training 28 had specialist training in communication. All the respondents have had basic training on HIV/AIDS infection precautions and drug supply and support, although only two have had more specific training on HIV/AIDS. Further, none have had any form of specialist training in advanced driving.

General conditions of work

In terms of normal hours of work, all respondents work a normal, eight-hour a day shift, although the start and end time of each shift varies and changes in a 24-hour cycle. All respondents report working overtime sometimes and two say they always work overtime. Their main motivation is to earn extra money, although often as not they are forced to work overtime because of staff shortages.

In describing their work, most use negative terms. Nearly half (n=14) say it is demanding, exhausting and stressful, especially because of the kind of work it entails - seeing people in death and comma and severe casualties - as well as the strain of working short staffed. Eleven say it is challenging, but difficult because they are expected to do their best to save lives at all times with very limited resources. Only five describe it in categorically positive terms – as rewarding and inspiring.

Asked about their problems at work, the majority (n= 20) say that their biggest handicap is being under-resourced in terms of staff, vehicles and specialist personnel. They also complain about low salaries and high work pressure. Ten respondents point to the pressure of high and unrealistic expectations from the community. Most (n=22) say they do not get enough rest time during shifts and all say they don't get enough time for leave and to be off duty. A majority (n=24) also said that they do not get enough time to further their training, improve their incomes and offer more needed specialist training.

Nearly all (n=27) say they are affected by the stress of the work although with one exception, none have had any training or support in handling work stress and trauma.

There is no counselling and support service to assist them reduce stress.

There was consensus among respondents that the shortage of vehicles makes their work more difficult, not least of all because the poor condition of the vehicles interfere with the services they provide and prolong their working day. Although there are regulations that stipulate that vehicles should be serviced at regular intervals and that they only be used to service designated areas, half the respondents say that these rules are hard to comply with because of work pressure. All report using vehicles even if they are not roadworthy when the need arises.

Perceived Impacts of HIV/AIDS

Asked about the impact of HIV/AIDS on EMS, all respondents felt that the epidemic has increased their workload, forced service provision choices and increased occupational health risks. According to many of the respondents (n=19), HIV/AIDS has reduced the service's staff complement as well. They also felt that the epidemic increased costs to clients and worsened budget constraints.

In terms of how HIV/AIDS affected them, responses varied according to whether respondents interpreted the question in terms of their own personal behaviour or in terms of their working conditions and context. Nine felt themselves to be at high risk from exposure to the epidemic because their work exposed them to casualties. 13 respondents ranked HIV/AIDS as an average health risk since they take precautions while the remaining 9 ranked HIV/AIDS as a low personal health risk since they take care and use proper preventative measures at all times.

Most respondents also rated HIV/AIDS against other perceived risks – particularly road accidents and hijacking or robbery. While responses to HIV/AIDS varied, there was an overwhelming sense of fear of accidents, even though only one had been involved in an accident, which resulted in a fatality. All respondents felt particularly endangered when they had to speed to attend Red Code EMS calls.

Four respondents were particularly concerned by hijacking and robbery, and one had been involved in a hijacking and had been robbed while attending a call in Edendale area, where the respondent and a colleague were robbed of their money, their mobile phones and were thrown out of the ambulance.

The respondents regard AIDS, robbery and hijack as less risky than accidents although they have a sense of agency to try and prevent all of these. In dealing with these risks, all the respondents do not have any counselling support available.

Chapter 5
Discussion and Conclusions

This study was designed to get a better understanding of the place and use of referrals in a health care system that provides a graduated, hierarchy of service.

Findings of the clinic study shows that referrals play a role in providing higher levels of health care in the context of limited resources and a high health care demand. This study shows that referrals allow for the specialisation of services and as well as a sharing of resources across facilities. Referrals have impact on accessing health care by clients from lower levels of health care. The system works less than perfectly for a range of reasons, including weak communication and patient management systems, under-resourcing and the assumption that the hidden costs of the system can be uncritically transferred onto clients.

The transformation the South African public health system has yet to achieve the objectives set out in the White paper (1998:02), particularly with respect to the need to redistribute health resources geographically and racially. There is still high degree of inequality between rural and urban health care centres. The fragmentation of resource allocation is one of the main problems in public health care. Due to fragmentation, primary health care centres in rural areas are poorly equipped with resources while those in urban areas are better resourced relatively speaking.

Referrals at rural sites to other clinics and hospitals arise because they are poorly equipped leaving them unable to attend to the health needs that fall within their jurisdiction. People often bypass their local facilities without being referred because local clinics are unlikely to have the service they require (Schietinger, & Sanei,1998:06). As a result hospitals end up being overcrowded, over-utilised and under severe strain. This results in a situation where local clinics are under-utilised simply because people do not have trust in local clinics and view hospital care as superior than primary health care. A redistribution of resources in favour of rural and resource poor areas is necessary to reduce the already evident pressure on the system by removing unnecessary referral utilisation. This will positively influence public perceptions, by raising the standard of primary health care in the localities where it is at its weakest while at the same time improving efficiencies in high demand facilities.

It will also reduce the costs of transport that have been transferred onto service users – the patients in need of care. This transfer of cost is both surreptitious and explicit, articulated as it is in the DoH policy as self-referrals. Self-referrals mean that the patients will provide their own transport to get to referral destinations. It is based on an assumption that people either have their own transport or they can afford to repeatedly pay for transport to get treatment and care. While this reality may hold for some, given the levels of poverty in South Africa and the rising rate of impoverishment in the context of HIV/AIDS, most people accessing public facilities are poor and getting poorer. The findings of this study confirm this, showing that financial circumstances and particularly the cost of transport inhibit proper utilisation of referrals.

Referrals are sometimes used negatively by the system. Health care professionals have been known to use referrals to chase people away and to pass the problem of how to manage awkward or difficult care demands onto others within the system, without helping the patient. In the context of the rising health care demands of HIV/AIDS this misuse of the system is likely to increase.

> "There will be an increasing temptation to blame the victims of the epidemic for the strain caused to the health care service, and deny them access to basic care" (Kaiser Family Foundation, 2001:17).

The challenge for both public and private sectors is to shift to fundamentally more cost-effective modes of therapy, rather than resorting to expensive and even discriminatory exclusion from services. In the context of the high HIV/AIDS and TB epidemics, there is a great need for a re-orientation of health care towards lower-cost hospice type care instead of acute hospitalisation.

Furthermore, transport has a major influence on utilisation of patient referrals to access health care. Findings of the clinic study shows that 63% of the clinic clients travelled distances of up to 10 kilometres on foot to get to their nearest health care facilities. Walking is not a travel mode of choice, but is driven by necessity in the absence of affordable transport systems. The DoH offers little relief in the form of Patient Transport Vehicles (PTVs), even when it's system of service provision is built on an assumption of transport linked integration.

The HIV/AIDS and TB epidemics

Literature on HIV/AIDS impact as well the findings of this study on interviews with health professionals shows that the HIV/AIDS and TB epidemics have already had a huge negative impact on the demand for health care. The HIV/AIDS forecast is one where there will a substantial increase in illness and death. This will intensify the need for health care on a system that is presently barely able to cope (WHO AIDS Series, 2000).

has one of the highest rates of growth in
organisation of mass health and other
is known that the existing transport cost
is already burdensome to poor people, an
cially if poverty is intensified, as it is with
of health care "so that the resources are
munities" (Wolffers, 2000:27). The
to easier access to localised, health care
care or hospitalisation is necessary.
nt and substantial support to community

the communicable disease clinic (CDC)
er, findings show that in many instances
ey sent home – they are kept in hospital
s implications for general health care
care needs. At the same time, returning
n financial, physical and emotional terms
99). Some sort of balance needs to be
citizens, get the care they need without
ies, especially women, who are already

ategories of health care is a common characteristic of public health care (Augustine,et al. 2000:17). According to the health care policy (1998) when patients are referred, they are either transported or given a referral letter if they travel on their own. However, findings of the clinic survey and case studies in this study show that this is not always done accordingly. Patients are often

referred without referral letters or being transported. After considerable personal expense, as this study shows, they may end up being sent back to get the original facility for a letter of referral. Furthermore, poor communication negatively impacts on how patients perceive and respond to referrals.

The literature on transport shows that there is a high degree of fragmentation between rural and urban areas in respect of access to infrastructure, as well as appropriate and affordable transport systems. In the context of care provisioning that assigns transport a pivotal role in getting the system to function, there is a great need for rural transport issues to be made a priority in policy planning and service delivery. This, not least of all because it is difficult to walk long distances to access health care when you are sick and transport, or more importantly its absence or costs, inhibit patients pursuit of health care. There is obviously a need for appropriate transport provision for people in resource poor areas as well as a need to bring services closer to the people in the form of well-equipped primary health care facilities.

Transport provision to people living in resource poor areas needs to be given serious attention in order to reduce rural-urban inequality. Findings of this study show a very low rate of car ownership among people in resource poor areas (9%) while there is a high rate of car ownership among urban residents (50%) where there are better equipped medical facilities. This means urban residents have better chance to access health care and they have access to better care. Tudor-Hart (in Scrambler 1997) argues that the provision of health care is inversely related to the need for it. This means that poor facilities are to be found in rural areas characterised by greater poverty and higher morbidity while urban areas have better facilities where living standards are higher and poverty and disease somewhat less. The law of inverse care is also starkly illustrated in this study by the disparities between clinics across the three sites, with the result that the propensity to take recourse in referrals increases the more the service facility is under resourced. This in turn intensifies the costs of care to users who are poorest.

Transport in the provision of EMS is also a major concern in the context of quality and easily accessible health care in the case of emergencies. While EMS do not attend to routine referrals, they are integral in accessing health care system in the context of emergencies. This study shows them to be under huge strain, with a shortage of vehicles and specialist personnel. Further the area that they are expected to serve is too

large relative to the resources at their disposal. Resource short, they are over burdened and under perform with huge implications for the loss of life and general performance of the health care system. The Department of Health's policy response, to encourage the privatisation of the service or to develop a 'public-private mix' in the provisioning of emergency transport for health care is patently inadequate to the need. This study shows that privatisation of EMS has not reduced the pressure on public EMS since the latter serve mainly the poor and low income people without medical aid.

There is no doubt that access to appropriate affordable transport is a very significant factor influencing peoples' quality of life. This study shows that transport has a major influence on the way in which people access health care facilities, especially in resource poor areas. In the context of the HIV/AIDS and TB epidemics which increases the demand for health care and referral utilisation, transport provision will be a critical to the system. At the same time, while there is a need to address transport issues there is also a need to think about alternative ways of delivering health care given the strain the HIV/AIDS and TB pandemics impose on public health care. A re-allocation of resources in favour of rural, more remote and under resourced areas seems to be an imperative.

Chapter 6
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Appendices
Research instruments

Transport issues that underpin access to a tiered government health service :
Clinics Survey

Interviewer name .....

Date of interview.....

Time of interview.....

Place of interview.....

Introduction

Hello, we are from university of Natal. We are conducting a survey on how people access health care services. The aim of this study is to get information which will help in improving access to health services. I would like to ask you some questions about yourself and your visit to the clinic. This will take about 15 minutes of your time. The information you give me is entirely confidential and no findings in this study can in any way be linked to you.

Number	Questions	Coding	Skip to
	Demographic Details		
101	Record Sex of Respondent	Male 1 Female 2	
102	What race are you?	African 1 Coloured 2 Indian 3 White 4 Other 5	
103	Could you please tell me your age ?	Age (years).....	
104	What is the highest level of education you have completed?	No schooling 1 STD 4 or less 2 STD 5 3 STD 6-9 4 STD 10 5 Tertiary Non-univ. 6 University 7	
105	Where were you born?	Pietermaritzburg 1 Town/city other kzn 2 Rural other kzn 3 Another Province 6 Outside South Africa 4	
106	Where do you live now?	Willowfountain 1 Imbali 2 Scottsville 3 Other.....4	
107	Including yourself, how many people are there in your family?	Number.....	
108	Are you employed ?	Casual 1 Part-time 2 Full time 3 Self-employed 4 No 5	
109	In terms people bringing money into your home, would you describe yourself as .....(read out)	Only breadwinner 1 Principal breadwinner 2 Second. breadwinner 3 Earning for my needs 4 Other 5	

Number	Questions	Coding	Skip to
110	Do you (or your family)own a car ?	Yes 1 No 2	
111	How would you describe your health in general?	Very healthy 1 Healthy 2 Sometimes healthy and sometimes sick 3 Sick 4 Very sick 5	
	Now I am going to ask you about your Clinic / Hospital visits and referrals.		
200	What service have you come for today?	Colds/Flu/Headaches 1 Family Planning 2 STD treatment 3 HIV testing 4 Minor injuries 5 Occupational health 6 Other.....7	
201	Today, how did you get here to the clinic ?	Came by own car 1 Came by pub. Trans. 2 Hired a taxi/ car 3 By Walking 4 By an Ambulance 5 Other.....6	
202	How far is your home from the clinic?	.....KMS	
204	How long did it take you to get here today ?	...../24hrs.	

Number	Questions	Coding	Skip to
205	What problems do you face in getting to the health care centre?	.....	
206	On your arrival at the clinic, were you (READ OUT) ?	Assisted immediately 1 Had to wait in queue 2 Other.....3	
207	How often do you visit the clinic?	First time 1 Once / Twice a month 2 Every 2 or 3 months 3 2 or 3 times/year 4	
208	Have you ever been to the clinic and told by the nurses /staff to go to another place for help ?	Yes Once 1 Yes more than once 2 Yes often 3 No, never 4	☞ 211
209	When you were referred last time, where were you referred to?	.....	

Number	Questions	Coding	Skip to
210	What was the reason for the referral ?	Was not told why 1 No medicine in the clinic 2 Needed Specialists 3 Did not understand 4 Needed hosp. Admiss. 5 Other 6	
211	Has it ever happened that you were referred to another place for service and never went there ?	Yes 1 No 2	☞ 213
212	**In your last referral**, what was the reason(s)?	....	
213	When you went to the referral destination how did you get to there?	I was transported by ambulance 1 Used Public. Transp. 2 Neighb/ Relative's car 3 Hired a taxi/car 4 Walked 5 Other.....6	
214	What were the reasons for not going to the referral destination ?	Was not too sick 1 No money to travel 2 Distance too far 3 Was too sick to go on my own 4 Other.....5	

Number	Questions	Coding	Skip to
215	When you went to your referral, what happened when you arrived ?	.....	
216	What problems did you encounter?	Long wait 1 No appointment made 2 No treatment 3 Did not get attended 4 Other.....5	
217	After the referral, did you report back to the clinic?	Yes 1 No 2	
218	Why?	.....	
219	How useful would you say the referral was?	.....	
220	Why do you say this?	.....	

Thank you for your time !!!

Transport issues that underpin access to a tiered government health service :
The Emergency Medical Services Survey

Interviewer name .....

Date of interview.....

Time of interview.....

Place of interview.....

Introduction

Hello, I am conducting a survey on EMS. This is part of my research project for my masters study at University of Natal. The aim of this study is to assist with information which will help in improving access to health services. I would like to ask you some questions about your work in the EMS department. This will take about 25 minutes of your time. The information you give me is entirely confidential and no findings in this study can in any way be linked to you.

Number	Questions	Coding	Skip to
	Demographic Details		
101	Record Sex of Respondent	Male 1 Female 2	
102	What race are you?	African 1 Coloured 2 Indian 3 White 4 Other 5	
103	Could you please tell me your age ?	Age (years).....	
104	What is the highest level of education you have completed?	No schooling 1 STD 4 or less 2 STD 5 3 STD 6-9 4 STD 10 5 Tertiary Non-univ. 6 University 7	
105	Where were you born?	Pietermaritzburg 1 Town/city other kzn 2 Rural other kzn 3 Another Province 6 Outside South Africa 4	
106	Where do you live now?	Pietermaritzburg 1 Another town in KZN 2 Another Province 3 Outside South Africa 4 Other.....5	
107	Including yourself, how many people are there in your family?	Number.....	
108	In terms people bringing money into your home, would you describe yourself as .....(read out)	Only breadwinner 1 Principal breadwinner 2 Second. breadwinner 3 Earning for my needs 4 Other 5	

Number	Questions	Coding	Skip to
	Now I am going to ask you about your work in the EMS department.		
200	How long have you been working in the EMS department ?	(Write) ...../years	
201	Before working for the EMS, were you .....(read out)?	A scholar 1 Unemployed 2 Employed 3	→204 →204
202	What work did you do?	.....	
203	Where were you employed (company and place)?	.....	
204	In which area of EMS do you work ?	Rescue Services 1 Advanced Life Support 2 Communication service 3 Other 4	

205	What specialist training have you had for your job ?	Yes	No	Irrelevant
	Paramedical Training	1	2	3
	Emergency rescue	1	2	3
	Advanced Life Support	1	2	3
	Advanced Driving Training	1	2	3
	HIV/AIDS	1	2	3
	Communication	1	2	3
	Other	1	2	3

206	In professional terms, how would you classify yourself.	.....	
207	What are your normal hours of work?	.....(hours)	

Number	Questions	Coding	Skip to
208	What time does your shift normally starts?	..... **(24hr clock)** (Day shift) ..... (Night shift)	
209	What time do you usually end work?	Time.....(24hr clock)	
210	Do you work overtime?	Yes, Always 1 Yes, Sometimes 2 No, Never 3	→212
211	Why do you work overtime?	To get more money 1 Too much work 2 Staff shortage 3 It is compulsory 4	
212	What one word would you use to describe your job?	....	
213	What makes you say this ?	....	

Number	Questions	Coding	Skip to
214	What(other) problems do you face in doing your work ?	....	
215	During your work, do you get enough breaks?	Yes 1 No 2	→217
216	If not(sometimes), what prevents you from getting enough breaks ?	....	
217	Which of the following affects you at work ? (READ OUT)	Yes No No time for leave 1 2 Time for off duties 1 2 Working overtime 1 2 even when I don't like 1 2 No time for further training/Study 1 2 Stress 1 2	
218	Does any of the following affect your working conditions? (Read out)	Yes No Number of vehicles 1 2 Number of staff 1 2 Overtime hours 1 2 Condition of Vehicles 1 2 Busy work schedule 1 2	

Number	Questions	Coding	Skip to
219	Has the HIV/Aids epidemic affected your work by :	Yes No	
	Increasing the work load	1 2	
	Forcing service provision choices	1 2	
	Increasing occupational health risks	1 2	
	Reducing Staff complement	1 2	
	Increasing Absenteeism	1 2	
220	Apart from these effects, what other ways has HIV/AIDS affected your work?	.....	
221	In the context of HIV/Aids epidemic, have you had any training with regard to? : (Read out)	Yes No	
	HIV/Aids occupational training	1 2	
	HIV/Aids infection precautions	1 2	
	Drug supply and support	1 2	
	Handling trauma and work stress	1 2	
222	How would you rank Aids as a personal health risk to you?	Very high 1 High 2 Average 3 Low 4 Very low 5	
223	Why?	.....	

Number	Questions	Coding	Skip to
224	Apart from AIDS, what are the other personal risks in your work?	Accidents 1 Hijack 2 Robbery 3 Violence 4 Other.....5	
225	As a driver, have you ever been personally involved in a serious accidents in which there was a fatality / severe injury /vehicle write off ? (During the course of your work).	Yes 1 No 2	→227
226	If yes, what was the main cause?	....	
227	During your work, have you ever been hijacked / robbed ?	Yes 1 No 2	→228
228	Can you explain the event(s)?	....	

Number	Questions	Coding	Skip to
229	On a scale of 1 to 5, where 1= not risky and 5=very high risk , can you tell me which of these risks do you feel most endangered by ?	Not risk ... High risk.	
	Accidents	1 2 3 4 5	
	Aids	1 2 3 4 5	
	Hijack	1 2 3 4 5	
	Robbery	1 2 3 4 5	
230	Which of these do you feel you can try and prevent or control?	Accidents 1 Aids 2 Hijack 3 Robbery 4 Violence 5 All the same 6 None 7	
231	Is there any counseling / support available to you to help you manage these risks ?	Yes 1 No 2	→235
232	If there is support available, What kind of support is available ?	....	
233	How often have you used it ?	Once 1 Very often 2 Always 3 Sometimes 4	
234	Would you describe it as .... ?	Very useful 1 useful 2 Not very useful 3 Very un-useful 4 Indifferent 5	

Number	Questions	Coding	Skip to
235	If there is no support, what plans do you use to manage the risks ?	Self-plan 1 No plan at all 2 Other.....3	
236	Do you ever transport patients for non-EMS?	Yes, Sometimes 1 Yes, always 2 No, never 3 Depend on cert. Factors 4	
237	Why do you say this?	....	
238	Are there any regulations at work on vehicle conditions and maintenance?	Yes 1 No 2 Don't know 3	→241
239	What does the regulation stipulate?	....	
240	Are they complied with?	Always 1 Sometimes 2 Never 3	

Number	Questions	Coding	Skip to
241	Can you explain why is this the case ?	.....	
242	What are the common problems, if any that you have with vehicle conditions and maintenance?	.....	
243	What is the approximate maximum mileage per shift under normal working days?	.....Kms.	
244	What is the approximate number of calls do you attend per shift in your normal working day?	.....Calls.	
245	EMS only attends calls falling in the Red and Yellow code categories. Are there any situations where you attend a call not falling in the Red/Yellow code category?	Yes Sometimes 1 Yes Always 2 No, never 3	→247

Number	Questions	Coding	Skip to
246	If Yes, what factors are considered?	.....	
247	What is the procedure for coding the calls or service ? By this I mean what is taken into consideration when getting an EMS call ?	.....	
248	Under the present conditions of your work, what would have to happen if the demand for the EMS service rises.	.....	
249	In your view, what could be done to improve your working conditions?	.....	

Number	Questions	Coding	Skip to
250	How does the privatisation of EMS affect demand for your services and efficiency ?	.....	
251	From your experience, in what other ways has privatisation affected the service you provide. (Explain)	.....	

Thank you for your time!!!