

Chapter 1

INTRODUCTION

1.1 Background

For the millions of poor in developing areas of the world, urban areas have always been a means for improving their quality of living and environment, besides getting better jobs and incomes (Srinivas, 2000). This, in contrast to deteriorating conditions in the rural areas has generated a considerable flow of migrants to cities, particularly in the last three decades (Srinivas, 2000). Priorities of urban migrants change over time, depending on conditions they find themselves in. But, one of the first persistent dilemmas they face for a long period is the question of adequate housing. With little or no financial resources as well as lack of skills or access to them, the drastic option of illegally occupying a vacant piece of land to build a rudimentary shelter is the only one available to them. The problem is further compounded by the apathy and even antipathy of various government agencies who view the “invasion” of urban areas by “the masses” and the development of squatter settlements as a social “evil” that needs to be “eradicated”.

Such a confusing knee-jerk reaction and attitude towards squatter settlements has not helped in addressing the more basic question of “adequate housing for all”.

Following the repeal of the Group Areas Act, which was the corner stone of the apartheid policy, in 1991, there was a large increase in the number of people migrating to the urban centers of South Africa (Urban Foundation, 1990 and 1991). In the case of Johannesburg and the central Witwatersrand, the accommodation crisis, for those people then still excluded from many areas, manifested itself in an increasing number of backyard and indoor shacks. In many other instances, there was a mushrooming of shack settlements in open lands outside the formal settlements. These shack settlements are known either as informal or squatter settlements (Urban Foundation, 1991; Beavon 1992).



Figure 1. A Typical Dwelling (Shack) in an Informal Settlement

Johannesburg is the largest city in the Gauteng Province, which is one of the nine provinces in South Africa. It was founded in 1886 after the discovery of gold and has since then been the center of South Africa's gold mining industry, which has made it one of the world's youngest major cities and is the country's chief industrial and financial metropolis (Greater Johannesburg Metropolitan Council [GJMC], 2000). The Greater Johannesburg Metropolitan area forms the largest urban complex on the African continent comprising a total population in excess of 2.5 million people, of which 4000 000 live in informal settlements (GJMC, 2000). About 70% of Johannesburg's citizens are African; and about 25% are white and the remaining 5% being Colored and Indian as well as other racial groupings; namely Greek, Italian, Russian, Polish, Lebanese and Chinese communities (GJMC, 2000).

Although the Group Areas Act was repealed in 1991, Johannesburg still retains a high degree of racial segregation due to urban form being very difficult to transform. Africans can be found throughout the city. But, the majority still live in “townships” on the periphery, which were essentially dormitory cities for blacks working in the city.

The problems experienced by the poor people living in informal settlements in terms of housing are linked to the issues of access to employment, land, infrastructure and shelter-related services such as clean water, electricity, sanitation, indoor air quality, food preparation and storage facilities (CEROI, 2000). Poor housing quality is closely associated with a wide range of ill health outcomes, including diarrheal diseases, respiratory problems, skin problems, injuries and poisoning as well as chronic diseases (WHO, 1987; Mathee et al., 1996; Mathee and Swart, 1999; Mathee and von Schirnding, 2001).

Qualifying definitions, characteristics, quality and examples of squatter settlements vary widely, with the inherent danger of generalization, but certain key distinguishing features are common to such areas.

The Johannesburg metro is divided into 11 regions. Of the eleven regions, Davidsonville clinic was utilized as a representative of Region 5, while data collected from O R Tambo clinic, situated in Diepsloot as well as Bophelong and Hikhensile clinics in Ivory Park were representative of regions 1 and 2 respectively.

1.2 Literature Review

Informal settlements, often referred to as squatter settlements or shanty towns, are dense settlements comprising communities housed in self constructed shelters under conditions of informal or traditional land tenure. They are common features of developing countries and are typically the product of an urgent need for shelter by the urban poor. As such they are characterized by a dense proliferation of small, make-shift shelters built from diverse materials, degradation of the local ecosystem and by severe social problems.

Informal settlements occur when the current land administration and planning fails to address the needs of the whole community. These areas are characterized by rapid, unstructured and unplanned development. On a global scale informal settlements are a significant

problem especially in third world countries housing the world's disadvantaged.

Srinivas (2001), defines a squatter settlement as 'a residential area which has developed without legal claims to the land and /or permission from the concerned authorities to build, as a result of their illegal or semi-legal status, infrastructure and services are usually inadequate.'

South Africa has a high rate of population growth that is impacting on the cities in the form of burgeoning squatter camps and informal settlements (Saff 1993:235). South Africa's total population was estimated at approximately 44 million in 1995 with estimates for annual population growth for urban Africans ranging from 2.4% to 3.5%. The majority of South Africa's poor are African, as are the majority of informal settlement dwellers. In 1994, approximately 1.06 million households comprising 7.7 million people lived in informal settlements. Coupled to this, an estimated 720 000 serviced sites that were provided by provincial legislatures under the previous government required upgrading and 450 000 people lived in various, often inappropriate, forms of hostel accommodation (Republic of

South Africa 1994:9, South African Institute of Race Relations 1994:328,367, Barry and Mason 1997).

In 1995 it was estimated that more than 400 000 people were inadequately housed in the Cape Town Metropolitan area (Mazur and Angle 1995 citing Urban Studies Unit of the Cape Town City Council 1995). The Metropolitan Spatial Development Framework (1995:10) cited urban growth rates for Cape Town of between 1.8% and 5% per annum.

The improvement of living conditions in informal settlements is one of the most complex and pressing challenges facing developing countries today. A prerequisite to such improvement is a framework of up-to-date spatial information.

In contrast to the developed world where developments towards technologies for reconstructing 3D models of formal urban, spatial models of informal settlements (ISs) are required to support efforts to improve basic living conditions. Common scenarios include, amongst others: (1) monitoring and predicting expansion; (2) relocation of residents to formal housing; (3) upgrading of settlements, e.g. through provision of basic infrastructure; (4) disaster management, e.g.

flooding and fires; and (5) environment and resource management. With the exception of perhaps scenario 3, requirements for spatial models of ISs emphasize less the need for positional and object modeling accuracy and more completeness of records in the face of highly dynamic environments.

A crucial requirement of effective planning is ready access to accurate and up-to-date spatial data. As informal settlements grow and change quite rapidly traditional mapping techniques are not economic or practical. Therefore aerial imagery is the best source of spatial information on informal settlements.

In 1999, there were 65 informal or squatter settlements within the Greater Johannesburg metropolitan area which received varying levels of service delivery and infrastructure (CEROI, 2000). The majority of the urban poor live within such settlements, which are also the site of the highest incidence of diseases and poor unacceptable living conditions (CEROI, 2000). By 2004 the City of Johannesburg had approved a consolidated list of 189 informal settlements and housing projects around the city, the first step towards achieving its target of formalizing informal settlements within the next three years. The consolidated list includes all known informal settlements - from a small

camp with six shacks in Zondi to camps with 10 000 shacks like that of Diepsloot. Other City housing projects taking place include Ivory Park, Cosmo City, Zandspruit, Dobsonville, Doornkop, Tshepisong, Alexandra, Orange Farm, Kliptown and Vlakfontein.

In the majority of informal settlements, health services are rendered by means of mobile clinics whereas in a few others, services are rendered through fixed clinics and health centers. The National Health Plan (ANC, 1994, RDP, 1994) introduced reforms in the health sector by laying more emphasis on preventive primary health care as the major focus of the health activities of the National Department of Health (NDoH) (Department of Health, 1995; Republic of South Africa, 1996, 1997, 1998). Alongside these reforms were the introduction of the National Drug Policy (NDP) which resulted in the preparation of the Standard Treatment Guidelines (STGs) and the Essential Drug Lists (EDLs) the first edition of which was released in March 1996 (National Department of Health, 1996). The application of the first edition of the EDL has been patchy due to a number of problems relating to availability of drugs, lack of input from primary care practitioners and the disease orientation of the list (Gray and Eagles, 2000). A second

edition of the EDL and Standard Treatment Guidelines has since been released in 1998 by the DOH (National Department of Health, 1998).

1.3 Health Services offered in informal settlement Health Care Facilities

The Davidsonville clinic offers the following services: Mother and Child Health, Sexually Transmitted Diseases, Curative Services for under 6 years, Adult Curative Services, Reproductive Health Services, Tuberculosis and Immunization (GJMC, 2000).

The O R Tambo clinic in Diepsloot offers the following services: Reproductive Health, Child Health, Communicable Diseases, Curative, and Community Based Rehabilitation.

All the primary health care facilities in the Ivory Park informal settlement area offer the following services: Reproductive Health, Child Health, Communicable Diseases, Community Based Rehabilitation and curative services both for children and adults.

1.4 Motivation for Study

Since the early 90's, there has been a steady increase in the rates of HIV infection. As a result, there is an increasing number of patients attending health services with AIDS related illnesses. A survey, to explore HIV prevalence among people aged 20 to 50 years of age, conducted in a sub-provincial area in Gauteng estimated that 21% of people living in private houses were infected with HIV, while a staggering 36% of people living in informal settlements were infected with HIV (Steinberg et al., 2000). This data suggests that HIV may be higher among dwellers of informal settlements. These patients may present with illnesses whose treatment strategies are not fully covered by the current editions of the EDL and STGs.

Most data on the South African HIV/AIDS epidemic is obtained from the anonymous, unlinked annual survey of pregnant women, attending public sector antenatal clinics. HIV infection levels in the general community in South Africa are believed to be lower than the public antenatal attendee population (Steinberg et al., 2000). The antenatal survey excludes children and the elderly, who are at a lower risk of HIV infection. It also fails to capture the overall risk of men, people who are

less sexually active and communities using the private sector. Figure 2 below shows projected numbers HIV infected best and worst case scenarios. It is estimated that 3.5 million South Africans are currently HIV infected, it is expected that in the absence of any behavior change that may alter the course of the epidemic, the increase in HIV infected individuals will more than double to between 6 and 7.5 million by the year 2010 (SAHR, 2000). Figure 2 illustrates the best and worst case scenarios for HIV infection projection from 1999 to 2010.

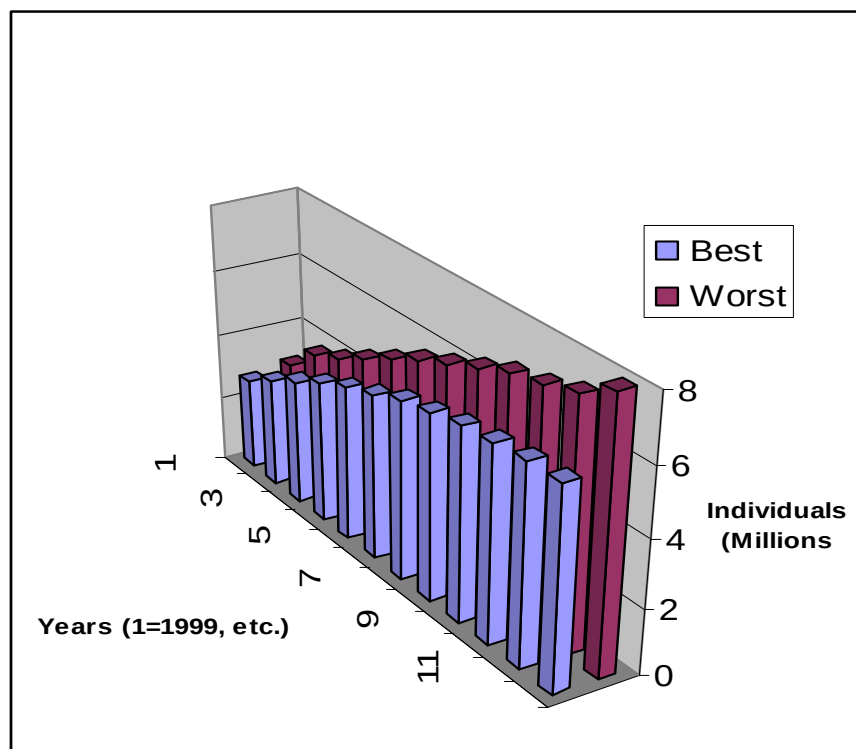


Figure 2. Projected Number of Best and Worst Case Scenarios of HIV infected Individuals for the Period 1999 to 2010 (SAHR, 2000).

1.5 HIV infection and the EDL

The introduction of the EDL in 1996 occurred at a period when the patterns of diseases in South Africa were changing. This change may be largely attributed to the increasing rates of HIV infections. The existences of TB and HIV co-infection has a huge bearing on treatment guidelines for either TB or HIV/AIDS. The EDL contains a list of drugs that may be used against opportunistic infections as a result of HIV primary infection. However, the current edition does not contain any guidelines for the management of HIV related opportunistic infection. South Africa started with its massive antiretroviral therapy (ART) roll out action by late 2003. The government initiated its antiretroviral drug (ARV) roll out campaign in selected major centers throughout the country. This action has implications both on the health system as well as the human resources and community and health worker perceptions on issues related to HIV infection and AIDS.

1.6 ARV Drugs and the EDL

There are forty two million people living with HIV/AIDS world-wide (WHO, 2003). Most of the HIV infected people live in developing countries. It is estimated that over five million people in South Africa are living with HIV/AIDS (WHO, 2003). A comprehensive response to HIV/AIDS; including preventing new infections, preventing mother to child transmission (PMTCT), prophylaxis and treatment of opportunistic infections, dignified end-of-life care and critically, antiretroviral therapy (ART), is needed to adequately tackle the epidemic (WHO, 2003).

The aim of ART in HIV infection is to reduce the amount of replicating virus to as low a level as possible, thereby preventing infection of new cells and further damage to the immune system. ARVs do not cure AIDS, but can extend the lives of people living with HIV by a number of years. AIDS mortality has dropped tremendously in industrialized countries because of access to a highly active antiretroviral therapy (HAART) a potent drug combination that became available in 1996. Also, since short-course antiretroviral regimes in 1999, mother-to-child transmission (MTCT) rates have been as low as 2-4% in industrialized countries (UNAIDS, 2004).

Brazil has the most advanced national treatment programme in the developing world access to ARVs is universally available at no cost through the public health system and the country produces a significant proportion of ARVs in its own generic pharmaceutical industry. 100,000 out of 530,000 people with HIV infection were on ART in 2000; the number of people on ART had increased to 150 000 towards the end of 2002. HIV-related mortality decreased by 50 percent and median survival time had from 18 months to 58 months among patients who already showed signs and symptoms of AIDS and 84 months among ARV-naïve patients (WHO, 2002).

The PMTCT programme in most countries rely on the use of Nevirapine because it is much cheaper than AZT costing about US\$4 per mother-child pair. Nevirapine, given in a single dose to the mother in labor and a single dose to the baby at 2-3 days old, reduces transmission by about 47% (Nachega J., 2002). HAART is an aggressive anti-HIV treatment is usually including a combination of three or more drugs with activity against HIV whose purpose is to reduce viral load to undetectable levels. If only one drug is given, monotherapy, HIV rapidly mutates to develop resistance to that one drug so that, after perhaps a few months, the drug is no longer effective in that patient. Hence HAART has a more competitive advantage over mono or two drugs therapy.

There are fourteen different drugs from three distinct classes; those that targets the reverse transcriptase enzyme, the protease inhibitors and the non-nucleoside reverse inhibitors. The third class of drugs also act on the reverse transcriptase enzyme, but differ in structure from the nucleoside transcriptase inhibitors (NRTIs) (Davies E., 2000).

The reverse transcriptase inhibitors, inhibit viral replication at the transcription level, while the protease inhibitors inhibit viral reassembly. The sites of action for the ARV drugs is illustrated in figure 3 below.

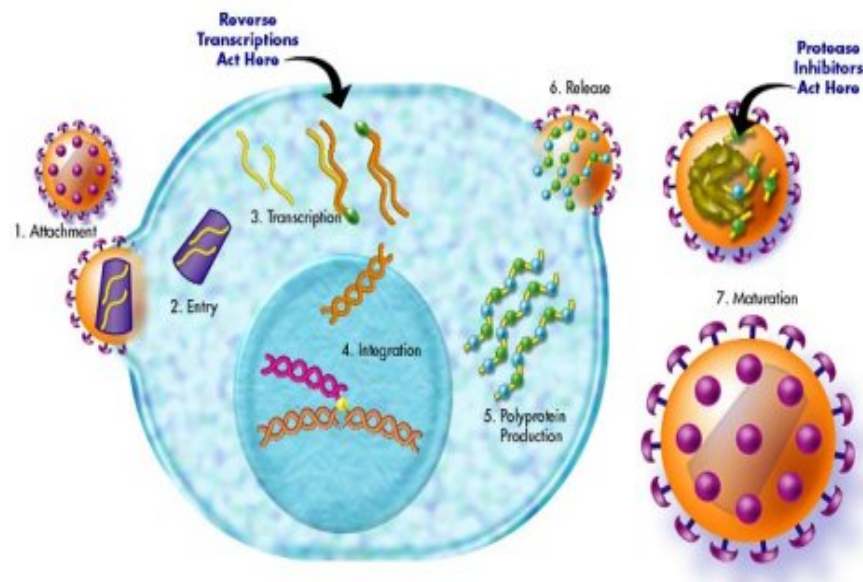


Figure 3. Life cycle of HIV and site of action of ARVs

Adapted from: Walker B. IDSA 1998

A number of ARV drugs such as Zidovudine, didanosine and stavudine are targeted at the reverse transcriptase. More recently a new group of drugs has become available to target the protease reaction in the replication process of the virus. These “protease inhibitors” such as indinavir and ritonavir have added a new arsenal to anti-retroviral therapy.

According to the South African ARV treatment guidelines, treatment should generally be initiated when the CD4 count drops to around 200 cells/cm³, or 200 cells/ml, although, consideration should also be given to those patients with a rapidly declining CD4 count, those with a rapidly increasing viral load or those with a high viral load. Treatment

combinations usually comprises of two NRTIs, and a third or a fourth agent (National Department of Health, 2004).

The common combinations used for initial therapy are taken from the following available options; two NRTIs and a PI, two NRTIs and two PI's, two NRTIs and a NNRTI or three NRTIs. It is recommended to include Lamivudine (3TC), nucleoside analogue reverse transcriptase inhibitor (NRTI) in all instances, because it is a potent drug with a good record of efficacy, safety and tolerability (Davies E., 2000).

In the recent past, South Africa has seen massive community mobilization for a comprehensive response to the epidemic by government and the provision of free antiretroviral (ARV) drugs to people living with HIV and AIDS. The campaign was to a large extent spearheaded by the Treatment Action Campaign (TAC), a grassroots advocacy organization that has acted on a provincial and national level, mobilizing the community to be aware of HIV as a political issue and to pressure the government to develop a comprehensive response.

1.7 Study Aim and Objectives

1.7.1 Overall Aim

To evaluate the prescribing patterns of health care givers to patients attending health services in an urban informal settlement

1.7.2 Specific Objectives

1.7.2.1 To determine the demographic patterns of informal settlement health center attendees

1.7.2.2 To determine the compliance to EDL prescribing by health workers in informal health care facilities

1.7.2.3 To determine the most commonly occurring types of diseases in all settlements .

1.7.2.4 To determine the commonly prescribed drugs in an informal settlement health care facilities.

1.7.2.5 To share the findings of the study with the relevant stakeholders.