Social Marketing and Health Service Promotion: a needs analysis for the antiretroviral rollout at the University of KwaZulu-Natal

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Declaration

I, Callen Cairn Morrison, hereby declare that this dissertation, submitted for the Master of Social Science degree at the University of KwaZulu-Natal, Howard College campus, is entirely my own work, with the exceptions of those references acknowledged in the text.

Signed: C.C. Morrison

Date: 23/09/05

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Finally, while this thesis has been an opportunity for me to gain knowledge in my field and to further my education, the reality of HIV/AIDS in South Africa is very grim. Tens of thousands of HIV positive South Africans still do not have access to basic nutrition or sanitation, let alone life-saving antiretroviral drugs. That is the shame of every South African. I will continue to support brave activists, and ordinary people, who fight for HIV/AIDS education, essential drugs, and support and understanding for those living with the disease. I hope that this thesis can, in some small way, make a contribution.

Abstract

HIV/AIDS has had a particularly devastating effect on sub-Saharan nations, including South Africa. Thus, a national rollout of antiretroviral drugs – capable of mitigating the effects of the epidemic – has been vigorously demanded by the South African public. Eventually bowing to public pressure, the Government began to implement the rollout of the drugs at public health facilities in early 2004. The University of KwaZulu-Natal announced in 2004 that it too would provide access to antiretroviral drugs for all students who require them. Thus, there is an urgent need for the institution to develop promotional campaigns that not only promote the service but that also deal with the fall-out from the problematic national rollout, and that address the complicated nature of antiretroviral therapy.

The focus of this dissertation is on a promotional needs analysis for the antiretroviral rollout at the University. Specifically, the primary research aimed to determine the knowledge, attitudes and beliefs of the general student population on the topic of antiretrovirals, and by doing so, identify the needs of this audience that will have to be addressed by future promotional campaigns. The theoretical framework used to inform the research design and questions is that of social marketing; a relatively new approach to social change that uses principles of commercial marketing to achieve results among target audiences.

The results of the research suggest that future promotional messages and campaigns directed at the general student population will need to focus on the following issues: clarifying the distinctions between different contexts of ARV use; increasing the awareness of the rollout at UKZN as a prerequisite to stimulating demand; addressing negative beliefs and misconceptions regarding ARVs; emphasising complementary practices to be used by individuals with HIV/AIDS; addressing issues of stigma and discrimination and encouraging students to act as sources of support and information for other students. In the case of certain messages, segmentation – on the basis of race and campus – may result in a more effective dissemination of information to the target audiences.

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List of abbreviations

AIDS	Acquired Imuno-deficiency Syndrome
ALP	Aids Law Project
ART	Antiretroviral Therapy
ARV	Antiretroviral
HAART	Highly Active Antiretroviral Therapy
HIV	Human Immuno-Deficiency virus
KAPB	Knowledge, Attitudes, Practices and Beliefs [survey]
PSI	Population Services International
PWHA	People With HIV/AIDS
STD	Sexually Transmitted Disease
SWOT	Strengths, Weaknesses, Opportunities and Threats [analysis]
TAC	Treatment Action Campaign
TB	Tuberculosis
TRIPS	Trade-related Intellectual Property Rights
UKZN	University of KwaZulu-Natal
VCT	Voluntary Counselling and Testing
WHO	World Health Organisation

Chapter 1: Introduction

This introductory chapter will provide a brief background to the topic under investigation and will explain the motivation for the research. The research problem and questions will be stated, and finally, a brief outline of each chapter will lead the reader into the literature review.

Background

South Africa has one of the most severe HIV/AIDS epidemics in the world, with current estimates indicating that between 4.7 and 6.6. million citizens are living with the disease (Soul City and Khomanani, 2004:11). Recent figures estimate that approximately 400 000 individuals with AIDS require immediate treatment with powerful antiretroviral drugs (Soul City and Khomanani, 2004:11) – the only effective means to treat the final stages of the disease.

After extensive lobbying by international organisations and local activist groups like the Treatment Action Campaign (TAC) – and much stalling by national authorities – the South African Government finally declared its intention to develop a detailed plan for the provision of antiretroviral drugs (ARVs) to individuals with HIV/AIDS on 8 August 2003. In April 2004, the University of KwaZulu-Natal (UKZN)[1] announced that it too would provide subsidised ARVs to all HIV positive students who require them.

At both a national and an institutional level there is a pressing need for appropriate communication about ARVs in order to influence the knowledge, attitudes and behaviour of HIV-infected individuals, individuals with AIDS and the general public. The empirical component of this dissertation examines this issue in the context of the ARV rollout by UKZN. A needs analysis – primarily utilising questionnaires – was conducted among the general student population, at the Howard College and Westville campuses. An investigation into students' current knowledge, attitudes and beliefs about ARVs, and their inferred

[1] The University of KwaZulu-Natal was formed on 1 January 2004, after the merger between the former University of Natal and the former University of Durban-Westville. The University now consists of five campuses: Howard College, Westville, Edgewood, Medical School and Pietermaritzburg.

promotion-related needs, was deemed an essential precursor to the development of effective, audience-driven communication materials around the subject.

The theoretical framework that has informed the present project is that of social marketing. Social marketing can be defined as:

> the application of commercial marketing techniques to the analysis, planning, execution, and evaluation of programmes designed to influence the voluntary behaviour of target audiences in order to improve their personal welfare and that of their society (Andreasen, 1995:7).

Social marketing draws on such diverse disciplines as commercial sector marketing, health psychology, communication, and anthropology. Perhaps its most common application is to problems of public health. Social marketing's central tenet of a customer orientation ensures that practitioners' first aim is to understand a target audience's knowledge, beliefs, attitudes and behaviour around a particular topic before designing a marketing mix that most appeals to their needs. Thus, a needs analysis is an important part of this formative research process.

Motivation for research

My own academic background is in the fields of marketing and psychology. During my Honours year, I came across the social marketing literature while conducting research for my dissertation. Subsequently, I became interested in the application of marketing to social problems. My Masters courses have allowed me to explore related fields, such as the history of epidemics and entertainment-education for health promotion. Thus, this dissertation represents a culmination of the academic knowledge I have gained throughout my six years of tertiary education, and allows me the opportunity to critically apply the social marketing paradigm to a particular area of research.

Besides my personal interest in the topic under investigation, the research is also motivated by a need to address a relatively under-researched area of study. To date, most health

communication[2] research in the field of HIV/AIDS has been focused on the need for the promotion of sexual behaviour change in order to prevent infection with the disease. There is a paucity of research concerning communications about the practical implications of ARV treatment to the user and his/her support community. However, research into such issues is essential to ensure that campaign developers have a better understanding of the target audiences they need to address as well as the specific messages that should be designed for particular audiences. This is particularly important in the context of the rollout at UKZN, where it was estimated that approximately 16% of students were HIV positive in 2004 (Mitchell, 2004b:2). A relatively large proportion of the general student population, therefore, may either require ARV therapy themselves, or know someone who does. Promotional messages that are designed for the needs of target audiences within UKZN are capable of influencing their knowledge, attitudes and beliefs to ensure that all those infected and affected by HIV/AIDS have sufficient understanding of the issues surrounding ARVs and thus can make informed choices accordingly.

Statement of the problem and research questions

The communication needs of different target audiences concerning ARVs are likely to be complex, diverse and challenging. Despite the hope that ARVs offer to those who would die without them, treatment with the drugs is complex and gruelling. The drug regimen must be strictly adhered to for the rest of the patient's life, notwithstanding often debilitating side effects (see Evian, 2003; Loveday, 2003). The complicated nature of antiretroviral therapy necessitates a great deal of social support for the individual on the drugs – a potentially problematic issue in South Africa where stigma and discrimination directed towards those with HIV/AIDS is still prevalent (Soul City, 2003:10). Members of the general public may also play an important role in passing on ARV-related information to those who most need it (Joint Health and Treasury Task Team, 2003:65). In addition, the media publicity surrounding the politicisation of the issue in South Africa, as well as a host of dissident opinions, myths and rumours, has contributed to a general sense of confusion regarding the drugs (see Willan, 2004). In the context of an individual institution like UKZN, therefore,

[2] Unless otherwise stated, the terms "health promotion" or "health communication" have been used generically; as promotion or communication methods designed to promote health.

ARV provision as a service for students needs to be marketed in ways that address these broad problems and issues. A needs analysis, then, is an essential pre-requisite for the development of effective promotional messages and campaigns on the topic of antiretrovirals, directed at the general student population.

The primary research will thus attempt to answer three major research questions:

1) What are the sources and content of the knowledge, attitudes and beliefs of the general student population concerning antiretrovirals?
2) Are there significant differences in the knowledge, attitudes and beliefs of sub-groups within the general student population that may justify audience segmentation when delivering messages?
3) What are the promotion-related needs of the general student population concerning the topic of antiretrovirals?

Chapter outline

Chapter 1: has provided a background to the study, and has described the motivation for the research as well as the research problem and questions.

Chapter 2: discusses HIV/AIDS in the South African context, elaborating on the sociological drivers of the disease and the impact it has had on South Africans and, more specifically, students at the University of KwaZulu-Natal.

Chapter 3: focuses on the issue of antiretroviral drugs for the treatment of HIV/AIDS. The politicisation of the issue in the South African context is explained, and the rollout of the drugs nationally and at UKZN analysed. Finally, the complexity of communications on the topic is elucidated, and the national and institutional approaches to ARV-related communications discussed.

Chapter 4: deals with the conceptual framework – social marketing. The most important tools and techniques of the approach are discussed, and social marketing is contextualised within other related fields.

Chapter 5: focuses on the methodology of the empirical component of the dissertation. Importantly the research designs for the expert interview and questionnaires are elaborated on.

Chapter 6: describes the findings of the questionnaire component of the primary research. Descriptive statistics, graphs and, where appropriate, significance tests, are used to explore the results.

Chapter 7: critically explores the findings of the primary research, discussing them in relation to relevant literature. In addition, the limitations of the research and suggestions for further research are outlined.

Chapter 8: concludes the dissertation.

Conclusion

This chapter has provided an introduction to the bulk of this dissertation. It has outlined the background to the research and has provided motivation for the study. The theoretical framework used to inform the present project – that of social marketing – has been introduced. The research problem and questions have been stated, and finally, a chapter outline has been given. The next chapter constitutes an analysis of the problem of HIV/AIDS in South Africa.

Chapter 2: HIV/AIDS in the South African context

"This, the last great pandemic of the twentieth century, and our responses to it are redefining the very fabric of society throughout the world during this new millennium."
(Pratt, 2003:4)

Like the Black Death and syphilis in previous centuries, HIV/AIDS has become a harbinger of doom in modern society, trailing death and destruction in its wake. The intimate nature in which HIV is transmitted has contributed to the extreme levels of stigma and discrimination surrounding those infected by the virus. In developing countries especially, the disease has had profound effects, adding to already high levels of poverty, unemployment and mortality. This first chapter of the literature review will outline the biological and sociological aspects of HIV/AIDS and analyse the impact it has had in the South African context. Finally, the prevalence and consequences of the disease amongst students at the University of KwaZulu-Natal will be discussed.

HIV/AIDS

Before moving on to the literature concerning the determinants and impact of the HIV/AIDS epidemic and later the issue of antiretrovirals, it is important to have a basic understanding of the biological aspects of the disease. The human immuno-deficiency virus (HIV) is a retrovirus which gradually destroys the CD4 cells of the immune system, resulting in the opportunistic infections which are characteristic of acquired immuno-deficiency syndrome (AIDS) (Loewenson and Whiteside, 1998:13). HIV is transmitted through contact with the bodily fluids of an infected individual. There are three primary modes of transmission: sexual intercourse, vertical transmission (from mother to infant, either prior to, or during birth, or through breast milk), or directly into the bloodstream through the use of contaminated blood or blood products or the sharing of needles by drug users (Loewenson and Whiteside, 1998:14-15).

The World Health Organisation (WHO) has classified HIV infection into four stages. While individuals in the first two stages of the disease may exhibit only minor symptoms such as swollen lymph glands and chest colds, patients in the final two stages suffer from debilitating conditions such as drastic weight loss, chronic diarrhoea, tuberculosis (TB) and life-threatening opportunistic diseases such as pneumonia, meningitis and cancers which ultimately result in

death (WHO, 2002:98-99; Soul City and Khomanani, 2004:6). The final stage of AIDS-related illness may, if treatment is not administered, last for up to two years before death occurs (Loewenson and Whiteside, 1998:14). In sub-Saharan Africa, the average time from infection with HIV to the development of AIDS is five to ten years (Loewenson and Whiteside, 1998:14).

In order to prevent infection with HIV/AIDS, the general public are typically advised to practise safe sex (this includes abstinence, faithfulness and the use of barrier methods of prevention); be aware of their HIV status; never share needles; take precautions when handling blood and blood products and not share toothbrushes and razor blades with someone who is HIV positive (Soul City and Khomanani, 2004:7-9).

Determinants of the South African epidemic

Despite massive information, education and communication efforts from a range of sources, South Africa continues to have one of the most severe HIV epidemics in the world. Current estimates suggest that there are 40 million people living with HIV globally, of which between 4.7 and 6.6 million are South Africans (approximately 14-16% of the national population) (Soul City and Khomanani, 2004:11; see also Department of Health, 2003; HSRC, 2002). The Nelson Mandela/HSRC Study of HIV/AIDS (2002:46) found an estimated 11.4% of the population to be infected with the virus, that is: 12.9% of Black Africans, 6.2% of Whites, 6.1% of Coloureds and 1.6% of Indians. In the most highly affected age group of 20 to 30 year olds, it is estimated that one in five individuals are living with HIV[3] (Soul City and Khomanani, 2004:11). In 2004, about 400 000 South Africans had full-blown AIDS and required immediate antiretroviral treatment[4], with this figure potentially increasing to over one million by 2007/8 (Soul City and Khomanani, 2004:11).

The question that must be asked, then, is why HIV/AIDS is so prevalent among certain populations – in South Africa the poor, female, Black population is most affected – and not others. While individual behaviour has been blamed repeatedly for variations in HIV prevalence

[3] Loewenson and Whiteside (1998:16) note that statistics on AIDS cases and HIV prevalence need to be treated with caution as AIDS cases are not notifiable (legally reportable to the authorities). The World Health Organisation estimates that only one-fourth of AIDS cases in developing countries are actually reported (1995 in Loewenson and Whiteside, 1998:16).

[4] UNAIDS/WHO (2003:9) estimate that this figure could be as high as 750 000.

amongst different groups, this is an inadequate and potentially racist explanation that does not address the root causes of the disease (see Katz, 2002). The next section of this chapter will argue that the HIV/AIDS epidemic is not simply a biological phenomenon. Rather, it is driven and exacerbated by a range of factors in the South African context including gender, violence against women, poverty, and stigma and discrimination.

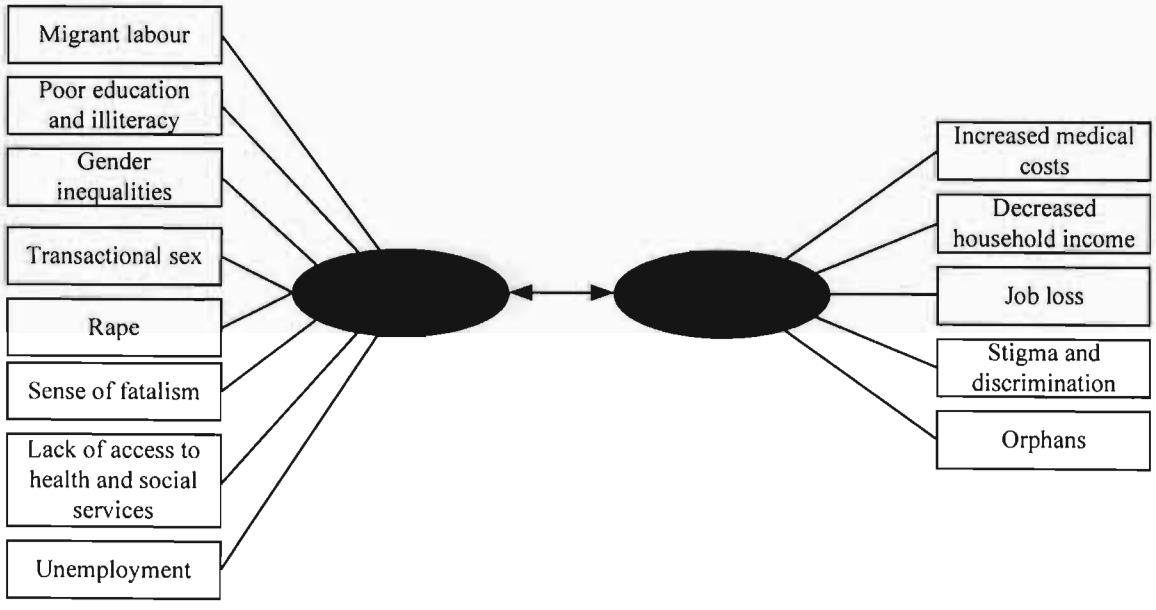
Gender plays an important role in fuelling the HIV/AIDS epidemic in South Africa. A potent combination of physiological, socioeconomic, cultural and historical factors makes women more vulnerable to infection than men and contributes to the spread of the disease. As a result of physiological factors, such as the larger surface area of the vagina as compared to the penis and the penetrative nature of sexual intercourse, women have a higher risk of contracting HIV than men (Parker et al, 1998:16). The socioeconomic status of women in this country also places them at an increased risk of HIV infection (Soul City and Khomanani, 2004: 15-16). The generally low status of women in South African society and within relationships, economic dependency, and the threat of rejection or violence make it difficult for women to protect themselves from infection against the wishes of their partners (loveLife, 2000:6). The fear of violence and abandonment may also mean that women are less likely to disclose their HIV status to their partners or to seek help and treatment for HIV/AIDS (Soul City and Khomanani, 2004:16).

The high incidence of rape in South Africa plays a part in the spread of HIV and other sexually transmitted diseases (STDs) (Parker et al, 1998:2-3). Poverty forces many women into prostitution, with its increased risk of disease, in order to earn money to support themselves and their children (Soul City and Khomanani, 2004:15). Transactional sex is another factor that must be considered. Researchers have noted the transactional nature of sexual relationships in Black South African society; in exchange for sex, girls expect their (often older) boyfriends to provide them with gifts, and even spending money and school-fees (Varga, 2000:53). These men are more likely to have had numerous sexual partners which increases their own risk of contracting HIV and passing it onto their younger partners.

Cultural and social norms that accept and even encourage a high number of sexual partners, especially amongst men, and that resist the use of condoms impede safer sexual practices that

could control the epidemic (loveLife, 2000:6). Historical evidence suggests that before the influences of colonisation and the spread of Christianity and, later, the migrant labour system and rapid urbanisation, Black South African societies had high degrees of sexual education and regulation (see Delius and Glaser, 2002; Jochelson, 2001). The breakdown in community rituals and traditions related to adolescence and sex as a result of these factors has caused high risk sexual behaviour to become more common[5], and with the advent of HIV/AIDS, considerably more dangerous (Yun et al, 2001:5).

Figure 2.1: The bidirectional relationship between poverty and HIV/AIDS



Source: adapted from Evian (2003:22)

Gender-related factors aside, the complex, bi-directional relationship between HIV/AIDS and poverty is an important determinant of the disease in South Africa (Soul City and Khomanani, 2004:17-18; *see Figure 2.1, above*). According to Parker et al (1998:2), the disease affects poorer communities sooner and more vigorously than other communities. A number of social factors synonymous with poverty may contribute to HIV infection including lack of access to health and social services, rapid urbanisation, unemployment, poor education, illiteracy, gender inequalities,

[5] See Morrison (2004) for a summary of the historical circumstances leading to the collapse of systems of traditional sexual socialisation in Black South African societies.

diversities in language and culture, crime, political instability and war (Parker et al, 1998:2). Psychologically, a sense of fatalism caused by limited life choices amongst poor individuals may lead to high risk sexual behaviour (Yun et al, 2001:5). Poverty, therefore, contributes to the spread of HIV as sexual behaviour is at least partly determined by people's economic and social circumstances. An example serves to illustrate this point: migrant labour is a common employment choice amongst poor, rural people due, in part, to high levels of poverty and the legacy of apartheid (loveLife, 2000:6; see also HSRC, 2002). Separated from their families and support structures, it is more likely that these workers will have unprotected sex with new partners or prostitutes as well as their partners at home, thus increasing the risk of HIV infection for all involved. Finally, Katz (2002) has presented a compelling case for the biological vulnerability of severely malnourished individuals to the HI virus and has suggested that this most basic factor has been largely ignored as a determinant of the high levels of HIV infection in poor populations.

The denial, stigma and discrimination associated with HIV/AIDS in South Africa and other African countries serves to hamper behaviour change efforts and contributes to the spread of the disease (UNAIDS, 2003:1). Silence and secrecy about the disease are particularly strong in African countries for two main reasons: HIV/AIDS is seen as a disease with mysterious symptoms that could be related to the occult and in addition, it is primarily sexually transmitted and thus an unacceptable subject in societies that rarely talk about sex in the public sphere or across generational and gender boundaries (Caldwell, 2000:154). Researchers such as Leclerc-Madlala (1999), Posel (2003) and Preston-Whyte (2003) have discussed the extreme levels of secrecy and silence around sex – especially pre-marital sex – in Black South African cultures particularly[6]. The denial that results from this silence is so deep rooted that people who attend funerals of AIDS victims in Africa are often unaware that s/he died of AIDS (Caldwell, 2000:154). This attitude extends to the highest echelons of society and, as will be discussed in Chapter 3, is evident in the reactions of South African politicians to the disease. As a result of the denial and fear that surrounds the disease, stigma and discrimination against people with HIV/AIDS are prevalent in South Africa. Consequently, individuals are less likely to be tested

[6] See Morrison (2004) for a comprehensive review of the historical and societal issues underlying this silence around sex and sexuality in Black South African cultures.

for HIV or be open about their status, which drives the disease underground and makes it difficult to control the epidemic. People may be prevented from seeking the care and treatment they need, fearing that their status will be disclosed. Thus, people living with HIV may be placed under extreme stress, with little familial or societal support, and this can accelerate the onset of AIDS (Soul City and Khomanani, 2004:13-14).

The impact of HIV/AIDS in South Africa

As discussed above, a range of complex and inter-related factors has contributed to the severe nature of the HIV/AIDS epidemic in South Africa, particularly amongst poor, Black South Africans. Nevertheless, other sectors of society are also vulnerable to both infection with the disease and to the widespread effects of such a high incidence of HIV/AIDS in the country. The HIV/AIDS epidemic is likely to affect the nation as a whole – demographically, developmentally, economically and socially – over an extended period of time.

Demographically, the effects of the HIV/AIDS epidemic in South Africa will become increasingly apparent in the next decade. The World Bank projects that, by 2020, life expectancy in sub-Saharan Africa will have dropped from an average of 62 to an average of 43 due to the impact of AIDS (Loewenson and Whiteside, 1998:22). More people, many in their reproductive years, will die of the disease and thus, fertility rates may be reduced (Loewenson and Whiteside, 1998:20). Although the epidemic will not stop population growth, it will curb the rate of population growth and significantly affect the structure of the population. In KwaZulu-Natal, the population of the province is projected to rise from 9 084 000 in 1996 to 10 376 000 by 2016, instead of 14 391 000 in the absence of AIDS: a difference of 27.9% (Loewenson and Whiteside, 1998:23). The size of the 20 to 40 year old age group as a proportion of the entire population will decrease (Loewenson and Whiteside, 1998:20). As this group consists of the most productive members of society, increased dependency ratios will result. The number of orphaned children will increase and, with it, the burden on extended families to care for these children. As of June 2002, more than 13 million children around the world – over 90% of them living in sub-Saharan Africa – had lost one or both parents to AIDS (Pratt, 2003:6). At the end of 2003, UNAIDS/WHO (2004:2) estimated the total number of AIDS orphans in South Africa to be about 1.1 million children.

The epidemic is likely to have significant developmental consequences. Recent estimates have suggested that HIV/AIDS could reduce GDP growth rates in this country by an average of between 0.3% and 0.4% per annum over the next 15 years (loveLife, 2000:15). Loewenson and Whiteside (1998:23) note that if the definition of development is extended beyond relatively superficial measures like economic growth and increases in GDP per capita, and is taken to include measures such as longevity, the standard of living, infant, child and maternal mortality and the distribution of income, then the impact of HIV/AIDS on development will be severe. HIV/AIDS is likely to reverse hard-won development gains on the African continent and leave individuals and nations worse off than before. Further attempts at development will be even more difficult as HIV/AIDS will first have to be dealt with before tackling other important developmental problems (Loewenson and Whiteside, 1998:23).

The economic impact of the epidemic will be immeasurably high. The epidemic is likely to affect national economies through the illness and death of potentially productive workers and the consequent fall in companies' productivity (Whiteside and Sunter, 2000:85). Companies have already reported increased mortality of their workers, lost time and longer periods of absenteeism due to the impact of the disease (Loewenson and Whiteside, 1998:21). Over the next decade, the number of employees lost to AIDS could be the equivalent of 40% to 50% of the current workforce in some companies (loveLife, 2000:12). However, Loewenson and Whiteside (1998:21) note that the impact of skills losses will be greater than total labour losses, resulting in increased training costs to replace lost workers. In addition, the disease has other effects on business. Companies could face a loss of customers, resulting in decreased profits, as well as increased costs because extended employee benefits will be necessary (Whiteside and Sunter, 2000:99).

In the public sector, there will be increased demands for spending on health and social welfare. Costs to health systems as a result of increased HIV/AIDS rates are probably the most visible and direct costs of the epidemic. Significant increases in other diseases and infections, such as TB, are also related to HIV infection (Loewenson and Whiteside, 1998:14). Thus, not only is HIV/AIDS a public health burden in itself, it is directly linked to the burden of other significant public health problems. The additional demand on health services for an estimated 10% HIV

prevalence is projected to range from 3% to 11.5% (Decosas and Whiteside, 1996 in Loewenson and Whiteside, 1998:21). Increased costs to social security and benefits schemes, to medical aid schemes, to education and other social services, to food security and safety nets are also likely to result from the epidemic (Loewenson and Whiteside, 1998:22).

The social impact of HIV/AIDS has been, and will continue to be, devastating. The illness and death of individuals from AIDS affects the immediate family, community and broader society in which they are located. HIV/AIDS plays a major role in increasing the poverty levels of individuals, communities and countries (*see Figure 2.1, p.9*). At the level of the household, an HIV positive diagnosis will always be traumatic and may be economically disastrous. The diagnosis and disclosure of HIV status results in major stress for the individual involved. Psycho-social consequences are aggravated as the disease progresses, both for the infected individual and for informal care-givers (loveLife, 2000:9).

It is likely that HIV/AIDS will have a greater socio-economic impact on households than death by other causes. The financial impact of AIDS on households alone is estimated to be as much as 30% greater than deaths from other causes (loveLife, 2000:9). One reason for this is that the disease mainly affects adults aged between 25 and 45, so individuals face illness and death in the years in which they would act as providers, carers and nurturers (loveLife, 2000:9). Because of the stigma attached to the disease, individuals and households may be excluded from society, and thus cut off from vital support networks. Furthermore, the protracted nature of the HIV illness means that there may be a lengthy depletion of household resources (Whiteside and Sunter, 2000:90). When breadwinners lose their jobs or die prematurely of AIDS, elderly people may be forced to use their pensions to care for their children who are ill and/or grandchildren who are orphaned (Soul City and Khomanani, 2004:18).

AIDS orphans are a particularly heartbreaking consequence of the epidemic. The loss of parental love, care and support necessary for the emotional development of every child may result in social problems that perpetuate poverty. The much lauded extended family structures of Africa, once capable of caring for these children, are being weakened by the increasing AIDS death toll among young adults, urbanisation and the migration of labour (Pratt, 2003:7). In child-headed

households, children (and girls in particular) may have to leave school to care for siblings, may be deprived of their home and experience food insecurity, are particularly vulnerable to abuse and may have to prostitute themselves to survive (Soul City and Khomanani, 2004:19). These circumstances can only increase the risks of HIV infection and perpetuate poverty in an endless cycle. Although the HIV/AIDS epidemic affects all sectors of society, poor households carry the greatest burden and have the least resources available to cope with the disease (loveLife, 2000:9). Accordingly, HIV/AIDS is likely to increase socio-economic disparities in this country (loveLife, 2000:15).

As a microcosm of South African society, the student population of UKZN has not been untouched by HIV/AIDS. UKZN is situated in the province with the highest incidence of HIV/AIDS in the country and in addition, tertiary education students fall within the most vulnerable age category for new infections. A study in 1999 showed a 16% HIV/AIDS prevalence rate among 40 617 staff and students (Mthethwa, 2004: online), while research in 2000 at one of the University's campuses found that 26% of female students in their early 20's and 12% of male students were HIV positive (Rossouw, 2004: online). Modelling exercises suggest a prevalence rate of about 16.6% amongst students in 2004 (Mitchell, 2004b:2). The impact of HIV/AIDS on tertiary education specifically includes the potential loss of human capacity, possible defaulting on student loans and the draining of the University's health insurance funds (Rossouw, 2004: online).

Conclusion

The incidence of HIV/AIDS, a devastating and ultimately fatal disease, is particularly high in sub-Saharan Africa. The epidemic is fuelled by a potent combination of economic and social factors, and thus cannot be simply attributed to individual choices. HIV/AIDS has had, and continues to have, a devastating impact on individuals, households and communities in South Africa. There is a clear need to move beyond AIDS awareness and prevention campaigns towards more concrete measures designed to deal with those who are already infected with the virus. In the developed world, the introduction of potent antiretroviral drugs to treat HIV/AIDS has turned a once fatal disease into a treatable, chronic illness. Although these drugs could check the course of the epidemic in developing countries too, the financial and logistical quagmire that

surrounds the rollout of ARVs must first be negotiated. In the following chapter, the rollout of antiretrovirals in the South African public health sector, and at the University of KwaZulu-Natal specifically, will be critically discussed.

Chapter 3: Antiretrovirals in the South African context

"...treatment for HIV and AIDS that includes anti-retroviral medicines should no longer be withheld as a result of government policy. ART in the public sector is necessary and possible, and a start must be made to implementing it as a matter of urgency in the interests of millions of lives." (The Bredell Consensus Statement, 19 November 2001: online)

In relatively wealthy nations, the introduction of potent antiretroviral drugs for the treatment of HIV/AIDS has had dramatic – almost miraculous – results. In South Africa, where it was estimated that about 400 000 people required immediate treatment with ARVs in 2004 (Soul City and Khomanani, 2004:11), the long awaited national rollout of the drugs in that year was welcomed by activists and the general public alike. In 2004 too, the University of KwaZulu-Natal, recognising the necessity of providing access to antiretroviral therapy (ART) as part of a comprehensive response to the HIV/AIDS epidemic, announced that it would facilitate the provision of ART to all students who needed it. At both a national and an institutional level, wide-scale communication campaigns on the topic of ARVs are necessary to inform, educate and communicate to HIV positive individuals and the general public. It is important to note that the national rollout and the rollout at the University of KwaZulu-Natal are irrevocably linked – many of the issues and debates around antiretrovirals at a national level are likely to have had a significant influence on the attitudes and beliefs of students concerning the topic. In addition, the types of communication campaigns and the key messages of these that are developed at an institutional level are dependent on the kinds of communication that the South African public are exposed to in the broader, national context. It is for this reason that much of this chapter aims to contextualise the rollout at the University, with attention being paid to the politics surrounding the national rollout and its implementation thus far. In addition, the basic mechanisms of, and issues surrounding, antiretroviral drugs will be briefly outlined. Finally, the communication needs that have arisen from the rollouts will be discussed, along with the tools and methods presently used by the Government and the University to communicate vital information about the drugs to the relevant audiences.

Antiretroviral drugs

Antiretroviral drugs work by blocking the enzymes HIV uses to replicate itself and thereby suppressing the replication of the HI virus (Evian, 2003:5). As a result the viral load[7] decreases, with a corresponding increase in the CD4 cell count[8], and the immune system of the infected individual is able to regain its strength and deal more effectively with opportunistic infections (Soul City and Khomanani, 2004:37). Today, patients with HIV/AIDS are likely to be treated with a combination of three (or more) different types of ARVs; usually two nucleoside reverse transcriptase inhibitors with either a non-nucleoside reverse transcriptase inhibitor or one or two protease inhibitors (Pratt, 2003:366; see also Joint Health and Treasury Task Team, 2003). This type of treatment regimen, as opposed to mono- or dual-therapy, is referred to as Highly Active Antiretroviral Therapy (HAART)[9] and is recommended to maintain viral suppression for as long as possible and to combat the effects of drug resistance (WHO, 2002:12).

A patient with HIV/AIDS is typically advised on the optimum time to start antiretroviral therapy based on the results of the CD4 cell count test and the viral load test[10] (Soul City and Khomanani, 2004:37). These tests are also used to determine whether or not the treatment is working. According to the Government's Comprehensive HIV and AIDS Care, Management and Treatment Plan for South Africa (Republic of South Africa, 2003b:29), individuals with HIV/AIDS are eligible to start ART once their CD4 cell count falls below 200 cells/mm^3 or if they have opportunistic infections associated with Stages III or IV of HIV disease that may be life threatening. Thus, ARVs are usually only administered to people who have developed full-blown AIDS. In 2004, it was estimated that approximately 400 000 people in South Africa required immediate treatment with ARVs (Soul City and Khomanani, 2004:11).

Antiretrovirals are not only used for the treatment of people with HIV/AIDS as described above, but also in two other situations; the first is in order to prevent mother-to-child transmission of the

[7] The viral load refers to the level of HI virus in the bloodstream.
[8] The CD4 cell count indicates the strength of the immune system.
[9] For the sake of simplicity, the term "ART" (antiretroviral therapy) has been used throughout the present research project rather than HAART. Unless otherwise indicated, the ART mentioned can be assumed to consist of the three/more drug regimen characteristic of HAART.
[10] Voluntary counselling and testing (VCT), although not discussed in detail in this chapter, is a prerequisite to an effective treatment programme as it allows early diagnosis and treatment of opportunistic infections before patients become seriously ill.

disease and the second is as a prophylactic, in an attempt to prevent seroconversion after rape or a needlestick injury (see Evian, 2003). The present research project, however, is concerned primarily with ARVs for the treatment of individuals with HIV/AIDS, and thus the alternative uses for the drugs will not be discussed in detail.

When used for the treatment of HIV/AIDS, antiretroviral drugs have a wide range of benefits. While ART is not a cure for the disease and must be taken for life, the treatment prolongs and improves the quality of life of the patient. The goals of treatment with ARVs include maximum, durable suppression of viral load, restoration and/or preservation of immune function, improvement of quality of life and a decrease in HIV-related morbidity and mortality (Southern African HIV Clinicians Society, 2002:4). At a conservative estimate, ART extends life for 3.6 to 4.4 relatively healthy years, as compared to non-ARV treatment (Joint Health and Treasury Task Team, 2003:53). ART has had major impacts on HIV-related deaths and illnesses where it is widely available and studies from the United States, Australia and Europe show the positive effects of ART in preventing opportunistic infections and prolonging AIDS-free survival (Martinson et al, 2002:235-236). In South Africa, between 2003 and 2010, an ARV coverage of 20% would result in the deferment of 293 000 deaths until after 2010, while an ARV coverage of 100% would defer 1 721 000 deaths (Joint Health and Treasury Task Team, 2003:53).

In South Africa and other developing countries, the widespread provision of treatment is likely to have a positive impact on the crippling poverty associated with HIV/AIDS. ART is likely to prolong the lives of economically active individuals so that households have greater economic and emotional resources to draw on; minimise the emotional and psychological costs associated with AIDS as families are able to stay together for longer; alleviate the burden on elderly people to care for children orphaned by the disease; result in a more productive workforce and ameliorate the negative effects of HIV/AIDS on the economy and, in addition, decrease dependency on government agencies for financial aid and health services (Soul City and Khomanani, 2004:19; see also Joint Health and Treasury Task Team, 2003). The provision of ARVs may also decrease the stigma associated with HIV/AIDS, and result in greater acceptance of prevention efforts. It may encourage more people to be tested for HIV at an earlier stage of the illness (Martinson et al, 2002:241). It is also possible that ART may decrease the infectiousness

of HIV positive individuals and thus decrease the risk of transmission (Gray et al, 2001 in Martinson et al, 2002:241).

Although antiretrovirals have tremendous benefits for individuals, communities and countries, they are powerful, ultimately toxic drugs and must be treated with due caution. The drugs are associated with a wide range of short-term and long-term side effects and drug interactions (Pratt, 2003:366). Common side effects include nausea, vomiting, diarrhoea, headache, rash and general fatigue. Long-term side effects can include liver toxicity, anaemia and body fat changes (Loveday, 2003:383). The serious long-term side effects of current antiretroviral treatment regimens mean that patients cannot remain healthy on these treatments for indefinite lengths of time; eventually they will die from opportunistic diseases or from the effects of the drugs (Pratt, 2003: xiv). Treatment with antiretrovirals is currently ongoing and life-long, with complicated drug regimens (Evian, 2003:80). Some regimens may consist of two to three different tablets, each needing to be taken two to three times a day; some with food and some without. Thus, patients must adhere strictly to the recommended antiretroviral regimen (this issue will be comprehensively discussed in a later section of this chapter).

Some patients cannot tolerate ARVs at all; others may develop resistance to the drugs and thus have to change the particular drug regimen they have been prescribed in an attempt to find a combination of drugs that works for them (Evian, 2003:79). There have been contradictory reports on the "HIV treatment optimism effect"; that is, optimism due to the beneficial effects of ART increasing high-risk sexual behaviour and thus increasing the likelihood of HIV transmission (Martinson et al, 2002:241). Patients should be advised to start/continue to practise safe sex in order to prevent the spread of HIV infection to others and to avoid re-infection with HIV – which is considered harmful (Evian, 2003:96).

If used carefully and correctly, however, there is no doubt that ARVs have the potential to prolong the lives of hundreds of thousands of South Africans who would otherwise die of AIDS. Nevertheless, the complicated nature of the treatment regimen means that adherence is a major issue that has to be addressed, particularly in the relatively complex South African environment.

The issue of adherence

Adherence is one of the most important factors in determining the success of the large-scale ARV rollout in South Africa. Dr Liz Thomson, the HIV and AIDS co-ordinator for the Department of Medicine, Pietermaritzburg Metropolitan Complex of Hospitals, in relation to this issue states: "I think this is either going to be a miracle...or we might end up with the biggest HIV resistance in the world" (Witness reporter, 2004). In order for ART to be successful, at least an 80% adherence to drug therapy is usually required (Evian, 2003:176). Poor adherence inevitably results in drug resistance, which not only limits the patient's treatment options, but also limits the treatment options for others who become infected with drug-resistant variants of HIV (Pratt, 2003:xiii-xiv). Thus, widespread poor adherence could cause existing ARVs to become redundant (Martinson et al, 2002:241).

A number of factors have been found to affect adherence to antiretrovirals and other chronic disease drug regimens. These include:

Levels of knowledge and understanding (treatment literacy): patient knowledge and understanding of the therapy are the basis of all strategies to encourage adherence to ART. Information about, for example, the consequences of poor adherence, possible side effects of the drugs and the implications of lab results that are used to monitor treatment success, enables patients to take part in the decision-making process and to assume responsibility for their choices (Martinson et al, 2002:240). The "buy-in" of patients is based on their understanding of the rationale behind treatment and the degree to which they believe they have a role to play when selecting their regimen (Saag, 2003:367).

Health beliefs: there is evidence that people who believe that ART has significant benefits may have higher rates of adherence than those with reservations about the effectiveness of the treatment (Joint Health and Treasury Task Team, 2003:45). The tenets of the health belief model, which relate directly to this point, will be discussed in Chapter 4 of the literature review.

The drug regimen: successful adherence to ART is associated with simpler drug regimens, daily or twelve-hour dosing frequency, as few drugs as possible and minimal disruption to normal routine (Evian, 2003:286).

Side effects: the degree to which the patient is willing to tolerate the sometimes severe side effects of ART is related to a number of factors including the nature of the side effect, how it interferes with the patient's day-to-day life and the patient's belief that the regimen is likely to be effective (Urquhart, 1996 in Saag, 2003:373).

Patient characteristics and lifestyle: possibly the only consistent predictor of poor adherence in the research literature, across many chronic conditions, is depressed mood and mental health problems (the prevalence of depression in people with HIV/AIDS has been estimated to be as high as between 20% and 52%) (Loveday, 2003:384). In addition, the abuse of substances or alcohol may be significant factors in an inability to cope with complex drug regimens that require a high degree of organisation (Joint Health and Treasury Task Team, 2003:45).

Health care providers: The qualities of the healthcare provider play a vital role in the adherence of patients to ART (Loveday, 2003:385), with the relationship between patient and clinician being an important predictor of adherence (Joint Health and Treasury Task Team, 2003:45). Nurses and/or doctors, for example, are typically responsible for the following: the decision-making process associated with starting or changing therapy; identifying – with patients – as to how best integrate drug taking into daily routines; providing advice during the initial stages of ART and providing long-term adherence support (Loveday, 2003:385).

Social support: adherence is usually most effective if the patient has stable relationships with family or friends who can offer social, practical and emotional support (Evian, 2003:97; see also Republic of South Africa, 2003b). Many treatment programmes encourage disclosure to at least one family member or friend as disclosure is seen to have a positive impact on adherence (Martinson et al, 2002:241). Soul City and Khomanani (2004:42), for example, advise that people on ARVs choose a "treatment buddy" who can offer support by reminding them to take their medication and making sure that they attend regular medical checkups. If patients lack

established social networks, the use of assigned "buddy" systems may help to support them through the initial stages of therapy (Loveday, 2003:388).

In South Africa, the rallying of communities around people with HIV/AIDS and those on treatment is seen as a vitally important. Dr. Liz Thomson, in a recent lecture, suggested that, in order for a successful ARV rollout to take place, every sector of society must be mobilised. She states that the "treatment of HIV and Aids is for everyone, not just doctors and nurses...We need to create a society where students can sms one another and say 'have you taken your medicine today?'"(Witness reporter, 2004; see also Thomson, 2004). In the South African context, however, it is important to note that the fear of stigma and discrimination may prevent people on ART from seeking much needed social support (Soul City, 2003:10). Thus, addressing issues of stigma and discrimination may be a vital component of promoting adherence to ART.

Other factors: other factors such as level of education and socioeconomic status are generally poor predictors of adherence (Chesney et al, 2000 in Saag, 2003:373). In the South African context, however, hunger, poverty and violence have been identified as major obstacles to adherence (PlusNews reporter, 2004:2; see also Soul City, 2003).

According to Saag (2003:373), "Even the most dedicated and committed [AIDS] patients find it difficult to remember to take each pill as prescribed every day over several months to years." It is evident that adherence to antiretroviral therapies is a complex, multi-faceted process, involving not only the individual, but also every member of society that is willing and able to help. In a developing country like South Africa, adherence is also complicated by numerous social and economic factors that need to be taken into consideration when developing adherence programmes. As will be discussed later, communication and social marketing programmes have a vital role to play in promoting adherence in the South African setting.

Complementary and alternative therapies

While there is no scientifically proven alternative to antiretroviral drugs for the treatment of the final stages of AIDS, a wide variety of complementary and alternative therapies are currently

used to ward off opportunistic diseases and maintain the health of the immune system for as long as possible. Some of these therapies, however, can be considered to be more viable than others.

One of the most important features of the care of people in advanced stages of HIV infection is the prevention of opportunistic diseases. While ART is the most effective way to achieve this, patients are usually only treated with ARVs once severe immune-deficiency has already occurred. Thus, prophylaxis drug therapy against some of the common or severe opportunistic infections, such as TB, is recommended to enhance the wellbeing and survival of people with HIV/AIDS (Evian, 2003:106). In addition, to prevent opportunistic diseases patients are typically advised to have regular medical check-ups, boil all unsafe drinking water, maintain good hygiene, avoid raw and undercooked meat, peel fruit or wash it well before eating and avoid exposure to contagious diseases (Soul City and Khomanani, 2004:34-35).

In a medical setting, "wellness programmes" may be used to help patients with HIV/AIDS to remain healthy for as long as possible (Evian, 2003:95). In order to achieve a healthy lifestyle and thus strengthen the immune system, these programmes promote the following recommendations: follow a nutritious diet, consider nutritional supplements if a balanced diet is impossible, avoid smoking and excessive alcohol use, keep fit, have sufficient sleep, maintain a positive mental attitude and seek early treatment for medical problems (Evian, 2003:95-96; Soul City and Khomanani, 2004:31-32). Stress management is considered important as the stress associated with chronic disease can weaken the immune system and worsen the clinical course of the disease (Robinson and Pratt, 2003:409). The use of "immune boosting medicine" appears to have little value in managing the disease (Soul City and Khomanani, 2004:32).

Alternative therapies – such as acupuncture, massage and traditional healing – although not scientifically proven as valuable for individuals with HIV/AIDS, can generally be considered as supportive therapy (Evian, 2003:96). Research estimates that up to 97% of South Africans with HIV/AIDS first use African/traditional or complementary medicine, and only resort to biomedical alternatives when these methods fail (Republic of South Africa, 2003b:87). However, while some traditional remedies and herbs may play a role in strengthening the immune system,

others are known to be harmful, particularly when taken with ARVs (Soul City and Khomanani, 2004:32).

The South African Health Minister, Manto Tshabalala-Msimang, has repeatedly recommended that patients with HIV/AIDS eat "a combination of garlic, onions, potatoes and virgin olive oil" (Sapa, 2003: online). Extensive research, however, does not appear to verify her stance on the issue. Garlic powder, initially thought to have antiviral properties, was found to damage gastric mucosa. Garlic supplements, given for over two months, may lengthen bleeding time and interact with antiretroviral drugs (Evian, 2003:96; WHO, 2002:117-118). Onions and olive oil also failed to show immune boosting properties. Large quantities of onion have been found to cause chronic diarrhoea and intestinal distension. Onions and olive oil – when taken together – are likely to be harmful and may even accelerate the onset of full-blown AIDS (Evian, 2003:96). The African potato (Hypoxis) has also been acclaimed by the Minister for its immune-boosting properties. However, the efficacy and safety study for the African potato was stopped after eight weeks owing to the development of serious bone-marrow suppression in the majority of the patients (Evian, 2003:96).

While there are a wide range of therapies and health behaviours that can support and promote a healthy immune system in HIV positive people, there is ultimately no substitute for antiretroviral therapy. Once the immune system is sufficiently weakened, ART is necessary to decrease the viral load and strengthen the immune system. In South Africa, however, it is only recently that ART has been made available at public health facilities, and it is still not universally accessible.

The national rollout of antiretroviral drugs

The South African Government's response to HIV/AIDS and the antiretroviral issue

In August 2003, the South African Government publicly committed itself to the development of a plan for the provision of antiretrovirals at public health facilities. Prior to this announcement, ARVs had only been available to a fraction of those in need of them; through pilot ART programmes in the private sector, clinical trials, medical insurance schemes and occupational health programmes (Martinson et al, 2002:239). Despite widespread protest, the Government had

resisted the provision of the drugs through a national rollout; citing the potential toxicity of the drugs and the high costs of such a rollout as justification. In order to understand the sea-change in government policy and the circumstances leading up to the ARV rollout in 2004, a brief history of the politics surrounding HIV/AIDS and antiretrovirals in South Africa is obligatory.

In the 1990's, the strategies and responses of the Government to the issue of HIV/AIDS, although relatively ineffectual, lacked the blatantly obstructionist nature of recent years. In 1994, the National AIDS Committee of South Africa (NACOSA) was formed; 1996 saw the establishment of an HIV/AIDS and STD programme and in 1998, a national interdepartmental committee on HIV/AIDS and a "Partnership against AIDS" was established to encourage a multi-sectoral response (Joint Health and Treasury Task Team, 2003:6). The Beyond Awareness Campaign, which was conducted under the auspices of the Department of Health from 1997 to 2000, focused on the promotion of the prevention and care aspects of HIV/AIDS (see Parker, no date). These committees and programmes suggested that the Government was prepared to offer a comprehensive, people-led response to the AIDS issue. By 2000, however, the political will of the Government to address the issue of HIV/AIDS seemed to have deteriorated. In that year, the National AIDS Council (SANAC) and the National HIV/AIDS and STI Strategic Plan (2000-2005) were announced. However, the plan's major focus, and indeed the visible response of the Government, was more on prevention and behaviour change messages, rather than on the antiretrovirals necessary for the survival of hundreds of thousands of South African citizens who already had AIDS (Willan, 2004:109-110). Critics have stated that the National AIDS Plan of 2000 lacked proper consultation, failed to address all the implications of the epidemic, had no clear dates or targets and ignored the issue of treatment (Willan, 2004:113).

The year 2000 also saw the beginning of the "denialism debate" led by President Mbeki, who established a Presidential Advisory Panel to consider the causal link between HIV and AIDS in South Africa (Willan, 2004:112). Mbeki claimed that AIDS activists and doctors who adhered to the mainstream position on AIDS were "racist" (Mbali, 2002: online). In addition, Mbeki resisted the provision of the drug AZT to pregnant mothers in order to prevent the transmission of the HI virus to their unborn foetuses, claiming that the drug's toxicity was likely to do more

harm than good (Brink, 2000)[11]. Organisations associated with the President, such as the ANC Youth League, continued to propagate this myth, labelling ARVs "highly toxic" and praising the Government's stand on the issue (see for example Ntshangase, 2003).

In addition to the alleged toxicity of the drugs, the high cost of ARVs was cited by the Government as justification for not providing the drugs. It is true, that, until recently, the price of antiretrovirals has been beyond the reach of most developing countries. International agreements on trade-related intellectual property rights (TRIPS) give pharmaceutical companies 20 years' exclusive rights to a drug, which is invariably put on the market at a high price to recoup development costs (Pellowe, 2003:424). However, a number of local and international initiatives to reduce the price of patent-protected ARVs, as well as an increase in production of generic copies of many ARVs, have greatly increased the affordability of ART in developing countries, including South Africa (Joint Health and Treasury Task Team, 2003:41). Sadly, the recent introduction of laws that prohibit the manufacture of certain generic ARVs in India – the world's leading manufacturer of generic ARVs – may affect the future affordability of the drugs (Clarke, 2005:14). Besides the issue of cost, however, the South African Minister of Health, Manto Tshabalala-Msimang, and President Thabo Mbeki have until recently continued to express doubts about the safety of AZT and argued, in addition, that South Africa did not have the infrastructure to distribute ARV drugs (Stastny, 2004:77).

On 19 November 2001, the TAC, together with medical and policy specialists and activists, issued "The Bredell Consensus Statement" (TAC, 2001: online). The statement emphasised the necessity of the national provision of antiretrovirals and called on the Government to change its stance on the issue. In April 2002, a legal challenge on the issue of the provision of ARVs for pregnant women was won by the TAC. Consequently the Constitutional Court declared that the National Plan had to be extended to include treatment for all pregnant, HIV positive women in order to prevent mother to child transmission of the disease (Willan, 2004:110). In a Cabinet statement on 17 April 2002, the Government stated that, in future, its policies would be based on the assumption that HIV causes AIDS (Republic of South Africa, 2002a: online). It also

[11] This stance directly contradicts general medical and scientific opinion, as outlined in the first section of this chapter.

conceded that ARVs could be beneficial if administered in specific stages of the disease in accordance with international guidelines – but that these drugs were too costly for universal access. The Government reported that it would continue to work on lowering the costs of ARVs. Although this Cabinet statement can be considered an important turning point in the South African Government's response to the antiretroviral issue, it also highlighted the Government's overwhelming focus on awareness campaigns, alternative treatments for HIV/AIDS – including immune-boosting supplements and the treatment of opportunistic infections – rather than on any kind of commitment to a national rollout of ARVs.

On 9 October 2002, the Cabinet statement of 17 April 2002 was updated to suggest that the Government was actively engaged in lowering the cost of ARVs and creating conditions which would make it feasible and effective to use ARVs in the public health sector (Republic of South Africa, 2002b: online). However, despite this promising development, the Government's attitude to the issue of ARVs was still clearly ambivalent. Citizens who challenged the Government on the treatment issue were labelled as "unpatriotic" and peaceful protestors of the TAC civil disobedience campaign of March/April 2003 were sprayed with water canons and beaten (Willan, 2004:113; see also TAC, 2003). Shortly after the chairman of the TAC, Zackie Achmat, called off the campaign, the Government publicly acknowledged that as many as 1.7 million South Africans needed antiretrovirals to survive, and that it would supply the drugs to 50 000 AIDS patients by March 2004 (Willan, 2004:113).

The findings of the Joint Health and Treasury Task Team, established in July 2002 and entrusted with investigating the costs and benefits of an ARV programme, were embargoed until 8 August 2003. The report showed, in considerable detail, the impact that a national rollout of ARVs would have on controlling the HIV/AIDS epidemic, and set out comprehensive guidelines as to how this could be achieved (see Joint Health and Treasury Task Team, 2003). When the findings were released the Government announced that, owing to new developments with regards to the pricing of drugs and the availability of budgetary resources, it was now able to consider such a programme. Therefore, it stated, the Department of Health had been asked by the Cabinet to "as a matter of urgency develop a detailed operational plan on an antiretroviral treatment programme" (Republic of South Africa, 2003a: online). On 19 November 2003, the Cabinet

publicly announced approval of the Operational Plan for Comprehensive HIV and AIDS Care, Management and Treatment for South Africa (Republic of South Africa, 2003c: online).

The key features of the Operational Plan (see Republic of South Africa, 2003b) include the recognition that ARV medications play a critical role in the treatment of people with HIV/AIDS, and the recommendations that ARV drugs should be made available at public health facilities and that the Operational Plan should be urgently implemented. The Operational Plan provides for the identification and establishment of HIV service points, at which people with HIV/AIDS will be offered a wide range of health services to manage their disease. These include: counselling for the prevention of HIV, VCT, ongoing counselling and support, treatment of sexually transmitted diseases, treatment to prevent the transmission of HIV from mother to child, post-exposure prophylaxis for rape and needlestick injuries, treatment of opportunistic infections, nutritional assessment and support, monitoring of CD4 count and viral load in order to determine eligibility for ART and finally, antiretroviral therapy if required.

Why, then, the shift in policy? Political observers have attributed the change primarily to an increased pressure – both domestically and abroad – on the Government to facilitate a national rollout (see Willan, 2004). Domestically, the lobbying of civil rights groups such as the TAC for universal access to ART and the media frenzy surrounding the issue swung public opinion against the Government, thus playing a significant role in pressurising the Government to roll out ART on a national scale. There was also ongoing international pressure; calls for the South African Government to express its political commitment to fighting the epidemic and developments of the World Trade organisation meeting in September 2003 that increased opportunities for poor countries to access cheaper drugs through the "parallel importation" of generic drugs (Willan, 2004:115). On the 22 September 2003, WHO committed itself to the "3 x 5" plan – that is having 3 million people on ARV treatment by 2005 – and encouraged leaders of developing countries to support the plan (see WHO, 2003). Thus, because of these domestic and international developments, it would have been almost impossible for the Government to continue to ask questions about the efficacy and high prices of the drugs as an excuse to delay treatment.

Evaluation of the ARV rollout thus far

Although the Government's about-face on the issue of a national rollout has been welcomed, the initial implementation of the Operational Plan has not been without its difficulties. A report by the Aids Law Project (ALP) and the TAC (2004:3) highlighted the fact that although hospitals and clinics have had enormous pressure to provide the treatment service, they have not been provided with the additional capital and human resources the Operational Plan promised. Other reports show that the current demand for ART at public health facilities far outweighs capacity, due in part to severe human resources shortages in clinics and hospitals across the country (Joint Civil Society Monitoring Forum, 2004:4). Even prior to the rollout, observers noted that a lack of capacity and operational weaknesses undermined the ability of the public health system to deliver even basic care to patients (Martinson et al, 2002:241). There have also, until recently, been numerous problems with drug supplies, due to a large extent to the delay in finalising the formal drug procurement and tender process (Joint Civil Society Monitoring Forum, 2004:5). By April 2005, however, the tender to provide supplies of ARV drugs had been awarded to seven companies – a sign that the weaknesses in the national rollout may be beginning to be ironed out (Weekend Witness Reporter, 2005:4). The latest figures available estimate that approximately 29 332 individuals were on ART at public health facilities at the end of December 2004 (TAC, 2005: online), and that by April 2005, the Department of Health had established at least one service point in all 53 districts in the country (Weekend Witness reporter, 2005:4). Nevertheless, it is unlikely that the target announced by President Mbeki of 53 000 people on treatment by 31 March, 2004 (and later extended to 31 March, 2005) has been met[12].

A national rollout of ART at public health facilities is not a simple matter; the management systems required to deliver the intervention and achieve high levels of patient adherence to the treatment are complex (Joint Health and Treasury Task Team, 2003:33). Expert opinion suggests that the successful implementation of ART in South Africa depends on a variety of interlinked factors including the availability of funds, affordable medication, adequate health infrastructure, human resources with the required skills, political will and a strong partnership across society (Joint Health and Treasury Task Team, 2003:81). Perhaps most importantly for the purposes of the present project, the antiretroviral rollout must be accompanied by a comprehensive

[12] These figures are not yet available.

communication campaign to all sectors of society. Before addressing this issue, it is necessary to briefly discuss the rollout of ART at the University of KwaZulu-Natal.

The rollout at the University of KwaZulu-Natal

In April 2004, the University of KwaZulu-Natal publicly announced that it would facilitate the provision of treatment, including ART, to all students who required it. This Treatment Programme, first implemented in 2003, forms part of the University's Comprehensive Student HIV/AIDS Prevention, Treatment and Care Policy. The policy has four key components: prevention, voluntary counselling and testing, the care of HIV positive students at the campus health clinics (including the treatment of opportunistic infections and the monitoring of CD4 cells), and referral to a preferred provider for specialised care, including ARVs, for students with a CD4 count below 200 (UKZN, 2004: online). While the patient is a registered student at UKZN, the University's AIDS Treatment Fund contributes to the cost of specialised treatment (UKZN, 2004: online)[13]. Students pay R50 per month to access comprehensive HIV/AIDS care, including ARVs[14] (UKZN, 2004: online).

Once a student has undergone VCT and has been discovered to be HIV positive, a CD4 count is obtained. Students with CD4 counts above 200 are offered primary health care and an HIV counsellor[15] develops an individual wellness programme with the student. The wellness programme includes the treatment of opportunistic infections, CD4 count monitoring, vitamin supplements, nutritional education and supportive counselling. Students with CD4 counts below 200 are referred to service providers who specialise in the management of HIV/AIDS. The service providers undertake a clinical assessment of these students and, if indicated, place the students on ART (Mitchell, 2004a:7). McCord Hospital is, at present, the recognised service provider for the Howard College, Medical School, Edgewood and Westville Campuses and Dr Peter Appelt (a private general practitioner) is the service provider for the Pietermaritzburg campus. HIV counsellors at the campus clinics are trained in adherence assistance and work

[13] Each student at UKZN has R30 taken off his/her fees as a contribution to the Fund and the University also provides money for the purpose.
[14] The average monthly cost for treatment – ARVs, other medication, blood tests, counselling and doctor's consultations – is approximately R800 (Mthethwa, 2004: online).
[15] HIV counsellors are professional nurses employed to provide VCT, support, care and wellness management of HIV positive students and staff as well as information, education and communication on relevant topics (Mitchell, 2004a:3).

closely with students on ART; offering them support and encouraging strict adherence to medications (Interview 1, 2004:84-88). Approximately 190 HIV positive students are being managed according to primary health care at the campus health clinics and, since October 2003, 13 students have been referred to service providers for specialised care (Mitchell, 2004a:7). One of the major challenges now faced by the University according to the Vice-Chancellor, Professor Makgoba (2004: online), is that of encouraging uptake of the comprehensive facilities and services available to students affected and infected by HIV/AIDS.

The Treatment Programme is aimed at creating a generation of graduates that are healthy enough to apply the skills and knowledge they have gained during their tertiary education (Makgoba, 2004: online). The provision of ARVs allows students sickened by AIDS to continue their studies and remain productive for longer, encourages students to undergo VCT and, for students in the early stages of HIV, allows them to come to terms with their status knowing that treatment is available when they need it (Makgoba, 2004: online). As with the Government rollout, however, massive communication campaigns will need to be undertaken at the University's campuses in order to inform and educate students and staff about these services.

Communication and antiretrovirals

The Clinton Foundation, which has been asked to advise the Government on the national rollout, has recommended that a communications plan on the topic of antiretrovirals be developed "as a matter of urgency" (Munusamy, 2003: online). The Joint Health and Treasury Task Team (2003:23) have stated that a substantial education and communication campaign will be essential to maximise the implementation of the rollout. Similarly, a comprehensive communication campaign will be necessary to accompany the rollout of ARVs at UKZN.

There is no doubt that the rollout of ARVs provides complex communication challenges, both at a national and an institutional level. In light of the literature reviewed in this chapter, major issues that would need to be addressed by communication campaigns on the topic of ARVs can be summarised as follows:

Communicating basic information: basic information that needs to be communicated to the general public includes: how to access ARV treatment, the benefits of knowing one's HIV status, the treatment of opportunistic infections, the fact that not all HIV positive people require ARVs, the importance of other interventions such as good nutrition before the development of AIDS and, importantly, that ARVs are not a cure for AIDS (Joint Health and Treasury Task Team, 2003:76).

Correcting misconceptions: the politicisation of the HIV/AIDS and antiretroviral issues in South Africa, and the accompanying media attention, is likely to have created a number of misconceptions among the general population. As the President and his Health Minister have not publicly retracted their statements on the relationship between HIV and AIDS and the toxicity of ARVs, many South Africans have been left confused and uncertain about these issues. Nomfundo Dubula, an AIDS activist notes that "The Government's stand that AZT is not safe and that there is no direct link between HIV and AIDS caused a lot of confusion among the people" (Stastny, 2004:77). Michelle Mitchell (Interview 1, 2004:111-113), former AIDS Programme Co-ordinator at UKZN, concurs that the rumours and myths that abound in the South African context, suggesting that ARVs are toxic, may contribute to the reluctance of some students at UKZN to be placed on ART. Willan (2004:12) suggests that this ambiguity and resultant questioning of medical science has major implications for communication campaigns developed in this country. In addition, the intense political activism around the issue of ARVs, by groups like the TAC, may have created false expectations about the drugs and their capabilities (Munusamy, 2003: online). It is important, therefore, that communications on the topic, in addition to communicating basic facts about ARVs and clearing up misconceptions about the safety of the drugs, stress the complexity and life-long nature of the ART regimen.

Encouraging adherence: it has been noted that the health authorities have a "formidable task" in educating patients about the need to adhere strictly to the ARV drug regime (PlusNews reporter, 2004:2). There is the danger that people may stop taking the drugs when they begin to feel better or experience unpleasant side effects, or that they may continue to practise unsafe sex and infect others with the virus (Munusamy, 2003: online). In South Africa, it has come to light that some patients with HIV/AIDS are sharing their ARV drugs with others, a dangerous practice that has

been attributed to poverty, stigma and lack of education (see Sookha and Packree, 2004). For those individuals who require ART, therefore, these issues must be addressed, with key basic messages like the importance of strict adherence to ARV regimens and the advisability of disclosing one's status to family or friends in order to gain emotional and practical support being communicated (Joint Health and Treasury Task Team, 2003:76).

Encouraging social mobilisation: the Joint Health and Treasury Task Team (2003:65) have stated that the use of community networks and general social mobilisation will be vital to accompany the rollout of ARVs and will be essential to its success. Members of the general public, including those who are not HIV positive themselves, can serve as effective and powerful information, education and communication channels (Joint Health and Treasury Task Team, 2003:65). However, stigma and discrimination against those with HIV/AIDS is still prevalent in South Africa and will need to be addressed by communication campaigns (Republic of South Africa, 2003a:175). Research conducted at UKZN showed that the low uptake of VCT at the campus health clinics was at least partly due to a fear of stigma and discrimination (Mitchell, 2004b:3), and this factor may also play a role in the relatively low uptake of the care and treatment programmes at the University.

Stimulating demand: although, at present, the demand at public health facilities for ARVs far exceeds available capacity, it may be necessary in the future to stimulate demand for the service. In some high-prevalence settings, the uptake of ART has been lower than anticipated, necessitating the mobilisation of demand (WHO, 2003:17). In addition, a recent survey of 77 South African private medical schemes showed that 90% of these schemes offered some form of ARV benefits but that uptake of these benefits was typically lower than expected (Joint Health and Treasury Task Team, 2003:52). UKZN has, in relation to its predicted infection rates, a relatively low uptake of health services like VCT and ART, and thus stimulating demand may well be necessary.

At a national level, the Operational Plan (Republic of South Africa, 2003b) makes provision for extensive information, education and communication, and social mobilisation campaigns to address the issue of HIV/AIDS as well as many of the antiretroviral-related issues discussed

above. The proposed communication strategy involves a wide range of government sectors and NGO's at national, provincial and local levels (Republic of South Africa, 2003b:174). Specific aims of the communication plan will be to ensure that all relevant government programmes, health care providers, people with HIV/AIDS, families, caregivers and stakeholders are aware of the key provisions of the plan and the care, treatment and support resources available. The promotion of health services like ARVs and treatment for opportunistic infections will also be undertaken.

The communication strategy will involve a market segmentation approach, whereby different groups are targeted differently in terms of the method used and the content communicated (Republic of South Africa, 2003b:176). There are three components to the proposed communication plan: mass communication campaigns and small media material to educate people about various aspects of ART, and social mobilisation to ensure that people with HIV/AIDS have adequate support structures in their communities. These campaigns are aimed at encouraging health-seeking behaviour and the adoption of caring attitudes towards people seeking assistance from health care services (Republic of South Africa, 2003b:179-180).

However, like many aspects of the Operational Plan, it appears that the communication plan designed to accompany the national rollout has barely been implemented. According to the TAC and the ALP (2004:3), communication about and popularisation of the Operational Plan has been weak in most provinces. While the lists of some accredited sites where eligible individuals can receive ART have been made available to internet users and the media, the list and the contact details of the actual sites that are providing treatment are not available to ordinary people with some access to radio, television and/or newspapers. Thus, the TAC and the ALP (2004:3) have asked the National Department of Health to inform its provincial counterparts that they have a constitutional duty to educate the public about the ARV rollout. Although television advertisements about ART aired briefly, these are no longer showing and anecdotal evidence suggests that this was on the orders of the Minister of Health (TAC and the ALP, 2004:3). However, a booklet – "HIV and AIDS: Prevention, Care and Treatment" – produced by Soul City and the Department of Health's Khomanani (2004), has been widely distributed. The booklet contains essential information about HIV/AIDS and ART as well as useful contact

numbers, although not a list of accredited treatment sites. The Health Minister, Manto Tshabalala-Msimang (2004:34), has named the distribution of 11 million copies of the booklet "the largest public health education drive of its kind". Nonetheless, the report by the TAC and the ALP (2004) suggests that a greater effort to promote the national ARV rollout and educate the general public, as well as individuals with HIV/AIDS, about ART must be made. On 4 November 2004, in a memorandum to the Minister of Health and provincial MEC's for health, the TAC requested that radio and television be used to promote the use of ARVs for the treatment of HIV/AIDS (TAC, 2004: online).

At an institutional level, UKZN uses a variety of communication channels to inform and educate students about HIV/AIDS and accessing VCT and ART. Small media such as brochures, pamphlets, reports and posters have been developed and distributed on all five campuses (UKZN, 2004: online). Campus-specific brochures have been developed for the Edgewood, Howard College, Pietermaritzburg and Westville campuses on the "How's, Where's and Why's of Getting to know your HIV Status and accessing treatment". The brochures include campus-specific telephone numbers of the various services as well as geographic-specific referral sources (Mitchell, 2004a:5).

A number of targeted HIV/AIDS-related campaigns are held throughout the academic year. The topic of HIV/AIDS, particularly VCT, is incorporated into all Orientation Programmes for first year students (Mitchell, 2004a:4). Other HIV/AIDS related campaigns in 2004 included the "Access HIV Treatment – A Stigma Free UKZN" campaign at the Howard College and Pietermaritzburg campuses aimed at informing students about VCT and accessing treatment; the "Unmask AIDS" campaign at the Westville Campus aimed at exploring staff and students' attitudes, prejudices and beliefs about HIV/AIDS and the "Hope and Healing" Campaign across all campuses aimed at dealing with the negative notion of HIV as a death sentence (Mitchell, 2004a:5-6; see also Mitchell, 2004b).

Media exposure has also contributed to awareness about the care and treatment services offered by UKZN. Since the beginning of 2004, the University has received significant media attention

around its Treatment Programme through channels such as *Safm, Sunday Tribune, Fair Lady Magazine, Drum Magazine, Sunday Times* and the *Chronicle of Higher Education* (Mitchell, 2004a:6). Michelle Mitchell comments that the Government rollout of ARVs, and the media attention around that, has created a window of opportunity to again attract students' attention on the issue of HIV/AIDS, and encourage them to seek more information on the topic (Interview 1, 2004: 35-38).

As well as making use of small and mass media, UKZN employs a variety of dialogue-oriented and participatory strategies to allow staff and students to engage with the issues surrounding HIV/AIDS and treatment. The use of word of mouth sources or "social networking" is seen by Michelle Mitchell as vital in spreading correct information and knowledge (Interview 1, 2004:53-54). Members of the Student Orientation Executive Committee and Orientation mentors are encouraged to act as role models in terms of knowing one's HIV status (UKZN, 2004: online). In 2004, the university-wide peer education programme was introduced. The aim of the programme is to equip those students who attend the workshops with the necessary information, skills and understanding of HIV/AIDS to implement behaviour changes and engage in dialogue with their peers (UKZN, 2004: online). As academic staff often deal with students who are HIV positive, and can act as important referral nodes, a need for staff to be informed about the University's HIV/AIDS-related programmes and services has been identified (Mitchell, 2004a:10). To this end, workshops with various departments and faculties have been undertaken and a staff peer educators project is in the planning phase. The student counselling centres also offer support groups for those infected/affected by HIV, with individual supportive counselling from student counselling centres (UKZN, 2004: online). Although a variety of activities are undertaken by the University to address the issues surrounding HIV/AIDS, available information does suggest that much of the focus is still on prevention and VCT, rather than on treatment. Whether or not students require additional information on ARVs is the topic of the present project and will be explored in subsequent chapters.

Conclusion

ARV therapy is a vital component of a comprehensive response to HIV/AIDS, although second to preventative behaviour change as the definitive means of controlling the epidemic. In South

Africa, ARV drugs have recently been rolled out at public health facilities and, in addition, the University of KwaZulu-Natal has announced that it will facilitate access to ART for all students who require it. Due to the complexity of ARV drug regimens, and the politicisation of the issue in the South African context, however, extensive accompanying communication campaigns are necessary at both a national and an institutional level to inform the general public of various aspects of ART and to encourage changes in beliefs, attitudes, and behaviour where required. In the following chapter, one method of achieving these goals – social marketing – will be critically discussed as a viable means of communicating to audiences on the topic of antiretrovirals.

Chapter 4: Social marketing

"Why can't you sell brotherhood like you sell soaps?"
(Wiebe, 1951-2 in Jha, 1999:31)

The rollout of antiretrovirals – both nationally and at an institutional level – raises issues around communication that are complex and challenging to address. One approach that is capable of influencing the kinds of changes in knowledge, attitudes, beliefs and behaviour that will be required for a successful rollout is social marketing. Social marketing offers a strategic framework that ensures that social change programmes are run on business lines, and thus it increases the likelihood of successful change amongst the target audience. In this final chapter of the literature review, social marketing will be discussed within the context of development communication approaches, and its link to marketing in the commercial sector will be analysed. A brief introduction to the tools and techniques of social marketing will be given, including a discussion of the strategic planning process, the importance of segmentation, the marketing mix, and the use of research in the marketing process. Finally, three behaviour change models that are particularly relevant to the project at hand will be outlined and a brief overview of the criticisms directed at the field will be presented.

The field of social marketing

Although campaigning for voluntary behaviour change is by no means a new societal trend – consider for example efforts to secure the vote for women or abolish apartheid – the development of social marketing as a discipline in its own right is relatively recent. In 1971, the term "social marketing" was first used by Kotler and Zaltman in a pioneering article in the *Journal of Marketing* (Piotrow et al, 1997:19). Social marketing can be defined as:

> the application of commercial marketing techniques to the analysis, planning, execution, and evaluation of programmes designed to influence the voluntary behaviour of target audiences in order to improve their personal welfare and that of their society (Andreasen, 1995:7; see also Kotler and Roberto, 1989; Kotler, Roberto and Lee; 2002; Weinrich, 1999).

Social marketing can be applied to a wide range of social issues, in both First and Third World contexts. In the area of public health specifically, it has been used to create awareness of health

issues, problems and solutions; create demand for health services and legislative action; teach skills; and encourage and reinforce positive behaviour change (U.S. Department of Health and Human Sciences, 1989 in Elder, 2001:19). It has been applied to a variety of health issues including family planning, HIV/AIDS, malnutrition and excessive population growth (Andreasen, 1995:32). In Uganda and Haiti, Population Services International (PSI) and AIDSMark have used social marketing techniques to develop programmes for the prevention of mother to child transmission of HIV/AIDS; including the promotion of antiretrovirals for this purpose (AIDSMark, 2004: online). In South Africa, social marketing techniques have been applied to the promotion of *Lovers Plus* condoms (Parker et al, 1998:8).

Social marketing has been used by government agencies like the Center for Disease Control and Prevention, the U.S. Agency for International Development and the U.S. Department of Agriculture, as well as NGO's such as the American Cancer Society, the Academy for Educational Development and the Futures Group (Andreasen, 1995:33). The World Bank and UNAIDS have also utilised social marketing principles in some of their programmes and campaigns (Kotler et al, 2002: xi-xii).

Although social marketing methods have been adopted by a variety of different organisations in order to successfully accomplish social change goals, their potential is still largely untapped – particularly in the South African context. South Africans, like most citizens of the global village, are influenced daily by commercial marketing techniques. Persuading people to try new products or services, or switch brands, is all in a day's work for the commercial marketer. As social marketing uses many of the same powerful principles, it too has the potential to effect far-reaching changes on society. Before elaborating on these principles, however, some of the ways in which social marketing is both similar and dissimilar from its commercial cousin will be discussed.

Social marketing in relation to commercial sector marketing

Social marketing is not dissimilar to marketing in the commercial sector. Central to all types of marketing is the fundamental principle of a customer orientation: a focus on the customer in order to understand the needs and wants of the target audience so as to better influence behaviour

change (Weinreich, 1999:6-7; see also Andreasen, 1995; Kotler et al, 2002). Many of the challenges faced by commercial and social marketers are also similar. In both fields the ultimate objective is to influence the target market's behaviour; target behaviours compete with alternatives; community pressures may make it difficult to bring about change; and supporting agencies (be it the national government or local retailers) must co-operate if the programme is to succeed (Andreasen, 1995:5).

Nevertheless, there are also fundamental differences between social and commercial marketing. Commercial marketing is concerned primarily with the selling of goods and services, while social marketing is used to "sell" ideas, practices and, in some cases, accompanying tangible objects (Kotler and Roberto, 1989:25). Although both commercial and social marketers seek to gain the greatest returns on their investment of resources, their primary aims and objectives differ. The main goal of commercial marketers is almost always to benefit the organisation through increased profits, and not, as is the case with social marketing, the target audience or broader society (Weinreich, 1999:4). While an important objective of both fields is to identify and position offerings in relation to those of the competition, competitors differ. For the commercial marketer, the competition is defined as all other organisations that are offering similar goods and services, or that satisfy similar needs. For the social marketer, in contrast, competition is the current or preferred behaviour of the target market and the perceived benefits associated with that behaviour (Kotler et al, 2002:10). Thus, one of the major tasks of the social marketer is to identify and examine the behaviour the target market would prefer over the one that is being promoted. Finally, social marketing is generally more difficult than commercial marketing. In contrast to the immediate pleasure the consumer experiences after the purchase of a consumer item like a book or motor car, social marketers can rarely promise a direct benefit or immediate payback in return for the proposed behaviour change. Indeed, most changes proposed by social marketers to their target markets – such as giving up smoking or using condoms – are downright unpleasant. Thus, social marketing is a particularly challenging profession because it relies on voluntary compliance to elicit behaviour change and not legal, economic or coercive forms of influence (Kotler et al, 2002:5).

While many similar principles are utilised by both commercial and social marketers, commercial marketing and advertising are not the only disciplines which have had a significant influence on the field of social marketing. Weinreich (1999:4) notes that social marketing has also been directly influenced by such theoretical traditions as health education, anthropology and social psychology. In addition, it is not the only discipline applying itself to the conjoined problems of social and behaviour change. Andreasen (1995:9) cites a lengthy list of behaviour change approaches, including: health education (Glanz, Lewis, and Rimer, 1990); health communications (Backer, Rogers and Sopory, 1992); health promotion (McElroy, Gottlieb and Burdine, 1987); mass communications (Atkin and Wallack, 1990); media advocacy (Wallack, 1990; Wallack, Darfman, Jernigan, and Themba, 1993); public advertising (Deutsch and Liebermann, 1985); public communications (Rice and Atkin, 1989; McGuire, 1984); social advertising (Kotler and Roberto, 1989; Weibe, 1951-2) and social mobilisation (Minkler, 1990; Glanz, 1990). While these approaches are used to address similar social issues to those tackled by social marketing, and may include useful concepts, they generally adopt a narrower focus than social marketing. Promotion or communication to the public is generally paramount, with other aspects of the marketing mix ignored. Like many of these approaches, however, social marketing falls under the larger umbrella of development communication, an association which is briefly discussed in the section that follows.

Social marketing and development communication

Notwithstanding its roots in the world of business, academic authors and theorists generally locate social marketing within the broader field of development communication[16]. Development communication is informed by two distinct theoretical approaches: 1) the diffusion/mechanistic model and 2) the participatory/organic model (see Servaes, 1995).

Social marketing is mainly, although not exclusively, informed by the diffusion or mechanistic model. This paradigm is largely based on Rogers' (1962) diffusion of innovation model – discussed in greater detail elsewhere in this chapter – which is concerned with the process of diffusion in a society and the adoption of innovations in an organised manner. Linney (1995 in

[16] While communication theorists may view social marketing as one approach to communication, social marketers would of course argue that communication is simply one aspect of social marketing (see Piotrow et al, 1997).

Parker, 1997:53) describes the key attributes of messages and campaigns developed within this paradigm: they disseminate solutions to problems, are addressed to target audiences, use pre-testing and generally do not involve local communities or encourage critical awareness. In general, positivistic research methodologies (usually quantitative and empirical) are utilised. Although current approaches that fall into the diffusion/mechanistic category of development communication may not necessarily view communication as a one-way, linear process as their predecessors did, there are still limitations associated with this paradigm. Parker (1997:52) notes that health communications based on this model tend to reflect the viewpoints and preferences of the communication professional rather than the target audience as the two groups usually come from quite different socio-economic contexts. Parker (1997:53) concludes that while campaigns utilising this approach may achieve results, they are limited in terms of the degree of audience/community involvement.

The participatory or organic model, in contrast, emphasises the value of the cultural identity of the local communities and of participation at all levels (Servaes, 1995:45). Participatory communication has its foundations in Paulo Freire's notion of dialogical pedagogy (see Freire, 1972) and in the concepts of access, participation and eventual self-management discussed in the Unesco debates of the 1970's (Servaes, 1995:46). Thus, communications developed within this paradigm generally do not only include, but emanate from the target audience or community, thus facilitating empowerment. Information exchange, rather than persuasion, is emphasised (Servaes, 1995:46). Research methodologies, thus, are always participative and generally ethnographic and qualitative. Nevertheless, this paradigm too has its limitations. Kerr (1997:68) notes that participatory cultural projects do not always result in empowerment of local communities as messages and materials generated may simply perpetuate oppressive stereotypes. In addition, there may be unintentional effects on the community involved. Participants selected for materials development workshops may be envied by those who were not chosen – with potentially negative consequences – and the participants' interpretation of the community's culture may simply reflect what they believe the facilitators expect (Kerr, 1997:70).

It would be inaccurate to suggest that every communication approach with social change goals necessarily falls into only one of the two paradigms associated with development

communication. Social marketing programmes, for example, may include a great deal of audience participation in the design and evaluation of messages. Likewise, essentially participatory techniques may utilise tools such as product definition or segmentation which are generally associated with a more mechanistic paradigm. Soul City, the South African entertainment-education vehicle, is an excellent example of a programme that has managed to bridge the two paradigms, "elaborating excellent social marketing strategies and combining them with participatory components that promote dialogue, challenge power structures and provide community-based action" (Tufte, 2001:26).

Fundamentals of social marketing

The discussion above has shown that social marketing is by no means the only approach designed to influence the behaviour of target audiences. Nevertheless, due to its widespread adoption by both governmental and non-governmental organisations; its application of sound business principles to social problems; and its proven ability to effect change (as well as my personal interest in the field), it is the foremost theoretical approach adopted for the purposes of the present project. As the major tenets of social marketing will be heavily drawn on in both the design of the primary research, and the discussion of results, a brief elaboration of these will be undertaken in the next few sections of this chapter.

The strategic marketing planning process

The strategic marketing planning process is particularly relevant to the empirical component of this dissertation, as a needs analysis is associated with the planning stages of the social marketing process. As in the business world, the development of a social marketing programme or campaign is ideally a strategic process, consisting of a number of ordered steps. Kotler et al (2002:34-43) outline the process as follows:

1) Conduct a situation analysis: once the programme focus has been determined and the campaign purpose identified, an analysis of strengths, weaknesses, opportunities and threats (SWOT)[17] is conducted. A review of similar programmes/campaigns could also prove useful.

[17] In the business context, strengths and weaknesses refer to the internal environment of the organisation, while opportunities and threats are found in the external environment.

2) Select target audiences: the estimated size, demographics, geographical location and any unique characteristics of the intended target audience are researched and described. The overall market is segmented and one or more targets are chosen.
3) Set objectives and goals: objectives may be behavioural, or knowledge- or belief-oriented. Goals, however, are quantifiable and measurable, and are more specific than objectives.
4) Analyse target audiences and the competition: the current knowledge, beliefs, and behaviours of the target audience/s – relative to the objectives and goals – are researched. An effort is also made to understand competition, perceived benefits, and barriers to action.
5) Develop the marketing strategy: the marketing mix – product, price, place and promotion – is designed in relation to the previous steps.
6) Develop a plan for evaluation and monitoring: questions such as what will be measured and how, when the measurements will be taken, and to whom they will be reported are addressed.
7) Determine budgets and find funding sources: the costs associated with various strategies are assessed and potential additional funding sources identified.
8) Devise an implementation plan: the campaign is divided into phases if necessary and decisions concerning what will be done, who will be responsible, when it will be done, and how much it will cost are made.

The importance of the social marketing planning process is illustrated by its inclusion in other seminal social marketing texts, including those by Andreasen (1995:72), Kotler and Roberto (1989:39), Weinreich (1999:21-22), and others. Although the description of the strategic planning process above is rather sketchy, a more detailed analysis of those principles most relevant to the present project will be undertaken in the next few pages of this chapter.

Segmentation of markets

Segmentation of target markets is an important step in the planning process described above. In addition, one of the research questions of this dissertation involves the possible segmentation of UKZN's student population in order to better deliver antiretroviral-related messages, and thus this concept needs to be explored further. Walker et al (2003:151) define market segmentation as "the process by which a market is divided into distinct subsets of customers with similar needs and characteristics that lead them to respond in similar ways to a particular product offering and

marketing program". Borrowed from commercial practice, segmentation is one of the central features of social marketing which distinguishes it from typical public education programmes - which generally treat targets as mass markets (Andreasen, 1995:17).

How, then, does the segmentation process work in practice? Once the total market for a social product has been described, it is segmented in such a way that members of a segment share similar characteristics that determine the behaviour under consideration, and that permit tailoring of messages or interventions to those members (Slater, 1995:187). In addition, members of a segment can be reached through similar media, organisational or interpersonal channels (Slater, 1995:187). The most common approach to segmenting markets is demographic; distinguishing segment members by variables such as race, gender, ethnicity, income or age (Slater, 1995:188). While the base/s used for segmentation often depend on the particular market and the available information, the variables chosen must be correlated with those factors that directly influence behaviour. Once segmentation of the market has taken place, one or more segments are chosen for targeting (Kotler et al, 2002:116-117), and tailored marketing strategies are then developed to appeal to the unique needs of each segment.

Market segmentation and subsequent targeting offer a number of strategic advantages, including increased likelihood of social change, increased effectiveness and efficiency, a basis for resource allocation, and input for developing strategies (Kotler et al, 2002:117). As segmentation necessitates an in-depth understanding of various sub-groups in the target audience, it is also likely to result in an audience-focused marketing programme (Weinreich, 1999:52). Segmentation allows social marketers to develop a set of marketing strategies and tactics that meet the needs, wants and perceptions of specific sub-groups rather than approaching the entire market with one general strategy that does not target anyone well (Andreasen, 1995:177). Although there is a great deal of empirical support for the segmentation technique, two research studies – see Morrison (2003) and Yun et al (2001) – are worth mentioning for their focus on young populations in the KwaZulu-Natal region. Both studies concluded that segmentation was indicated for the target populations under investigation.

The marketing mix

Unlike some of the other approaches to social change that have been mentioned, social marketers do not rely on only one or two programme elements to achieve results amongst target audiences. Based on experience in the commercial sector, four strategic elements (the so-called "4 P's") are considered when developing a social marketing programme. The social marketing *product* is the behaviour or offering to be adopted by the target audience. The product may fall anywhere along a continuum ranging from physical products, to services, to practices, to more intangible ideas (Weinreich, 1999:10). The *price* of adopting a particular social product or behaviour may be monetary, but it is more likely to be an intangible cost, such as time, effort, or previous habits that must be given up (Weinreich, 1999:12). The *place* is where the target audience will perform the new behaviour, acquire any tangible objects, receive services associated with the programme, and gain access to the programme's messages (Kotler et al, 2002:41). *Promotion* includes the message to be communicated (Kotler et al, 2002:42), and the means by which the social product is promoted to the target adopters (Kotler and Roberto, 1989:44).

Each of these four strategic elements – product, price, promotion, and place – may be manipulated by the social marketer in order to make the final offering more attractive to the target audience. As the empirical research of the present project consists of a needs analysis for the promotion of the antiretroviral rollout at UKZN, the promotional component of the marketing mix will be discussed in some detail in the section that follows.

Promotion

Promotion is an important part of the marketing mix, and a consideration in the broader strategic marketing planning process. The development and implementation of a promotion (communication) programme consists of the following steps (Andreasen, 1995:200; Jha, 1999:57-68):

1) Determine objectives: specific, time-bound promotional objectives that are consistent with the overall campaign objectives, and that emerge from a thorough analysis of the target audience, need to be developed. Objectives may include one or more of the following: create awareness, facilitate knowledge, encourage preference/liking for the behaviour, encourage conviction,

develop the intention to perform the behaviour, or facilitate performance of the behaviour amongst the target audience (Jha, 1999:59). While good use of promotion can help in creating awareness, knowledge and preference, behaviour generally cannot be changed by promotion alone (Jha, 1999:59)[18]. Thus, the most effective campaigns set fairly modest but attainable goals in terms of behaviour change (Backer et al., 1992, in McGrath, 1995:208).

2) Decide on the promotion mix: the major elements of the promotion mix include advertising, personal selling, publicity, and sales (Elder, 2001:21). A careful evaluation of the advantages and disadvantages of each element should be undertaken in order to select a promotion mix that is relevant to the message and target audience.

3) Develop messages: choosing a message to communicate to the target audience depends on an analysis of their characteristics, the benefits they seek, and the meaning and affect they associate with different words and images (Jha, 1999:64). In order to produce messages that have long-term effects on target audiences, experts suggest that a well tested theory/theories of behaviour change be used as the underlying framework for message development (Andreasen, 1995:141; Kotler et al, 2002:169; Weinreich, 1999:91). Some important behaviour change models will be examined in a later section of this chapter.

4) Select channels of communication: effective communication vehicles and channels, to which the target audience will respond and deem credible, must be selected (Salmon et al, 1996:136). Channels of communication can be divided into two broad categories: mass media, such as visual, audio and print media, and interpersonal media, such as personal presentation and direct mail (Jha, 1999:66). The choice of media depends on a number of factors including: the nature of the target audience and its media habits, promotion objectives, the message and its execution, the cost and availability of the media, and impact (credibility of the media with the target audience) (Jha, 1999:66).

[18] The effects of the mass media particularly are limited in achieving behaviour change. For a comprehensive analysis of the limited effects of the mass media in effecting behaviour change, and the evolution of the perceived role of the mass media in health promotion, see Naidoo and Wills (1988).

5) Pretest messages: pretesting of the promotional aspects of the campaign with the target audience is an essential component of a successful social marketing programme (Weinreich, 1999:123). It ensures target audience comprehension, detects unforeseen interpretations, facilitates the refinement of messages and materials, and allows for the selection of the most effective approach (Weinreich, 1999:126).

6) Implement the promotion programme

7) Evaluate outcomes: promotion activities need to be periodically monitored and systematically evaluated using social marketing research (Jha, 1999:67-68). Research is the focus of the next section of this chapter.

Promotion, then, is a vital component of social marketing campaigns. However, it should be reiterated that communication alone is unlikely to result in behaviour change among a target audience. In addition to a focus on the other "P's" of the marketing mix, interventions at the interpersonal and community levels should be considered to ensure the members of the target audience have the skills and support necessary to perform the desired behaviour (Elder, 2001:18-19).

The importance of research

Research is an essential pre-requisite for each of the steps described in the strategic marketing planning process. According to Kotler and Roberto (1989:62), "Research is what differentiates the marketing approach to social change from earlier impressionistic efforts to influence changes in social ideas and practices". While research may be rare for most health communication campaigns (Atkin and Freimuth, 1989 in Nowak and Siska, 1995:171), as the foundation of social marketing, sound research offers a scientific basis for making strategic decisions. Social marketing campaigns can only be effective among their target audiences if the specific needs, desires, beliefs, and attitudes of target adopters are used to inform them (Lefebvre et al, 1995:218). Thus, marketing research has a role to play at every stage of the social marketing process, including planning, implementation and evaluation.

Based on the stage in the social marketing process at which it occurs, three types of basic research can be identified. Firstly, *formative research* is used to guide the initial development of the programme or campaign (Weinreich, 1999:27). Formative research is conducted to analyse the marketing environment, select and segment target markets, and develop preliminary strategies to address chosen markets (Andreasen, 1995:106). Secondly, *pre-test research* is used to evaluate alternative strategies and tactics before they are implemented, and refine possible approaches so that they can effectively address the specific needs and wants of the target audience (Andreasen, 1995:120). Thirdly, *monitoring and evaluation research* is used to assess projects after their implementation so that, if necessary, they can be adjusted to improve their efficiency and effectiveness. Monitoring typically refers to an ongoing measurement of programme outcomes, while evaluation is usually a single final assessment of a project or programme (Andreasen, 1995:127). A useful framework for understanding the type of research necessary at each programme or campaign phase is presented in Appendix A, and will be referred to again in Chapter 5.

Models of behaviour change

Social marketers typically borrow theories and models of behaviour change from a variety of other fields, including health psychology, anthropology and commercial marketing. These are considered vital tools in creating social marketing programmes that effect real social change. There are a wide variety of behaviour change models available to choose from, but as these have been extensively described and evaluated elsewhere[19], a comprehensive review will not be attempted in this chapter. Instead, three models that have informed the assumptions of the empirical component of the present project will be briefly described.

Diffusion of innovations model (Rogers)

The ability of social marketers to plan and manage the diffusion or spread of adoptions to the largest possible target population requires both an understanding of individual behaviour, and of the mechanisms by which new ideas and practices are spread to target adopters (Kotler et al, 2002:171). In this regard, the diffusion of innovations model, developed by Everett Rogers

[19] See for example Glanz and Rimer (1995) for a review of the major behaviour change models used in health promotion today.

(1962) from a synthesis of previous diffusion research studies in diverse fields, is particularly useful. In addition to its applicability to both the commercial and social marketing fields, the model has influenced a plethora of approaches to development communication – as noted earlier in this chapter.

Rogers (1962:17-18) distinguishes between the *adoption process* – the adoption of a new idea or practice by one individual – and the *diffusion process*, which deals with the spread of new ideas in a social system. There are five stages in the adoption process (Rogers, 1962:81-100):
1) Awareness: the individual is exposed to the innovation[20] but lacks complete information about it and is not yet motivated to seek further information.
2) Interest: the individual is interested in the new idea and searches for additional information about it. S/he favours the innovation in a general way but has not yet judged its usefulness in terms of her/his specific situation.
3) Evaluation: the individual mentally applies the innovation to her/his present and anticipated future situation in order to decide whether or not to try it. If the individual feels that the advantages of the innovation outweigh the disadvantages, s/he will decide to try it.
4) Trial: if possible, the individual uses the innovation on a small scale to determine its applicability to her/his own situation.
5) Adoption: the individual decides to continue full use of the innovation.

Elaborating on his concept of the adoption process, Rogers (1962:99) suggests that impersonal information sources, such as mass media, are most important at the awareness stage, while personal sources are more important at the evaluation and trial stages. In general, the model presents personal influence as extremely important in the adoption process. Personal sources are more likely to influence behaviour and the transfer of ideas than mass communications, which rarely affect decisions directly (Rogers, 1962:100). This is because personal influence is better able to overcome the barriers of selective exposure, perception and retention that can inhibit the effectiveness of mass media campaigns (Rogers, 1962:225).

[20] An innovation is defined as an idea perceived as new by the individual (Rogers, 1962:13).

Rogers (1962:169-170) proposes that individuals in a society can be allocated to one of five adopter categories (or segments) on the basis of their degree of innovativeness: innovators, early adopters, early majority, late majority, and laggards. Rogers (1962:209) also suggests that not all individuals in a social system play equivalent roles in diffusing ideas and practices; some adopters are active in influencing others to adopt while others play a passive role in spreading an innovation after their own adoption decision is made. Individuals with a high degree of influence, from whom others seek information and advice, are known as opinion leaders or gatekeepers (Rogers, 1962:16). In general, individuals who fall into the "early adopter" segment tend to possess the highest degree of opinion leadership in a social system (Rogers, 1962:169). Change agents, professionals who attempt to influence adoption decisions in particular directions, may also have a high degree of influence in adoption decisions (Rogers, 1962:17).

Importantly, Rogers (1962:124-132) also proposes a set of determinants of the speed and extent of adoption and diffusion in a social system. These determinants include:

- *Relative advantage:* the degree to which an innovation is better, easier and simpler than the currently available options.
- *Communicability*: the degree to which the results of the innovation may be diffused to others.
- *Compatibility*: the degree to which the innovation fits into people's lifestyles, cultural beliefs and practices, and self-images.
- *Divisibility:* the degree to which the innovation can be tried before making a final commitment.
- *Complexity:* the relative difficulty of the innovation to understand and use.

The model's set of inter-related concepts – those of the adoption and diffusion processes, adopter segments and the determinants of adoption and diffusion – can be applied by the social marketer in a variety of contexts. In practice, an understanding of the adoption process for a particular social product or behaviour allows social marketers to set objectives and goals for campaigns, and manipulate the marketing mix to meet the needs of adopters in different stages of the process. Empirical evidence suggests that the concept of stages in the adoption process is valid (Rogers, 1962:95). Lending further weight to Rogers' work is the fact that his conceptualisation

of the adoption process is echoed in another, more recent, stage model often used by social marketers: the transtheoretical model (see Prochaska and DiClemete, 1983 in Kotler et al, 2002). Although Rogers' model of the adoption process has been praised for its simplicity, some authors suggest that it does not adequately reflect the full complexity of adoption. Specifically, it does not acknowledge the possibility of a needs recognition stage prior to the awareness stage; it does not allow for potential evaluation and rejection of a new product after each stage; and it does not include a post-adoption evaluation stage (Schiffman and Kanuk, 2000:425).

However, recent research, suggesting relatively limited effects of the mass media and the importance of interpersonal communication in behaviour change, supports Rogers' assessment of the role of personal sources in the adoption process (for example Tones and Tilford, 1994, in Naidoo and Wills, 1988:248). The concept of opinion leaders has been used to advance both commercial and social goals (for example Schiffman and Kanuk, 2000; Stroebe, 2000) and has entered the vernacular of the social marketing and health promotion fields. In commercial and social marketing, the set of proposed determinants of the speed and extent of adoption and diffusion can be a useful tool in anticipating consumers' reactions to products, as well as in developing promotional strategies that can compensate for the deficiencies of a particular product (Schiffman and Kanuk, 2000:414).

As the analysis above – and the earlier discussion around development communication – indicates, the diffusion of innovations model has been criticised by a number of authors, both in terms of the components of the model, and with regards to the health promotion approaches it has spawned. Nevertheless, the model's tenets have a great deal of applicability to social marketing. The model is also relevant to the specific areas of public health and health promotion; in which the dissemination of new prevention, early detection, and treatment methods to target adopters is a major challenge (Glanz and Rimer, 1995:28). In addition, the diffusion of innovations model is one of the few population-focused models available to social marketers (Lefebvre, 2001:512-513).

Health belief model (Rosenstock)

The health belief model is one of the more commonly used theories amongst public health practitioners and many of its major tenets have been incorporated into social marketing projects (Lefebvre, 2001:507). The model was originally designed to explain why individuals did not participate in programmes to prevent or detect diseases.

The health belief model proposes that an individual will take action to prevent, screen for, or control a disease or condition based on the following factors (Kotler et al, 2002:170; Rosenstock et al, 1988:177):

1) *Perceived susceptibility*: the subjective perception of the likelihood of experiencing or developing a condition that will adversely affect one's health.
2) *Perceived severity:* the belief of the individual about the seriousness of the consequences of developing a specific health problem.
3) *Perceived benefits*: beliefs about the effectiveness of various actions that might reduce susceptibility and severity.
4) *Perceived barriers:* the extent to which the treatment or preventive measure may be seen as expensive, inconvenient, unpleasant, painful or upsetting.
5) *Cues to action:* bodily or environmental events that trigger action. Cues to action may be internal cues like a bodily symptom, or external cues like a mass media campaign.

Thus, once an individual perceives a threat to their health and is simultaneously cued to action, and the perceived benefits outweigh the perceived costs, the individual is likely to undertake the recommended health action. More recently, the health belief model has been amended to include *self-efficacy* as another predictor of health behaviours, especially more complex ones that necessitate long-term lifestyle changes (see Rosenstock et al, 1988).

There is considerable empirical support for the health belief model. A review of a number of studies, conducted across a variety of health behaviours (such as using seat belts, adherence to medication regimens and conducting breast self-examinations), found substantial support for the tenets of the model (Janz and Becker, 1984 in Lefebvre, 2001:507-508). However, the model has been criticised as it assumes a rational decision-maker (Freimuth, 1992, in Airhihenbuwa and

Obregon, 2000:7). It also postulates that a change in beliefs automatically results in a change in behaviour (Andreasen, 1995:10), and ignores the influence of social influence variables on individual behaviour (Stroebe, 2000:21). As the health belief model is an abstract theoretical framework, it has to be operationalised in the context of a particular health behaviour and target audience (de Wit and Stroebe, 2004:56).

Lefebvre (2001:516) proposes that the health belief model can be best utilised by social marketers in designing and implementing the promotion component of the marketing mix. Social marketers can benefit from conducting research to determine the target audience's perceptions of susceptibility, severity, benefits and barriers as well as cues to action before developing campaign strategies (Kotler et al, 2002:171). Decreasing the perceived barriers and increasing the perceived benefits of a health behaviour are common objectives pursued by social marketing programmes (Lefebvre, 2001:508). In addition, such programmes implicitly constitute the cues to action component of the model (for example mass media interventions designed to motivate a particular behaviour) (Lefebvre, 2001:508).

The communication-persuasion model (McGuire)

While McGuire's (1974) communication-persuasion model only examines one of the strategic elements considered important in social marketing programmes – promotion – it is included in this discussion as much of the literature on the development of promotional messages is implicitly or explicitly based on this model (Andreasen, 1995:205). The most recent version of the model (see McGuire, 2001) presents an input-output matrix to describe the stages leading to behavioural change (outputs), and how progress through these stages is aided by communication in its various forms (inputs). Inputs are those qualities of the communication message that can be manipulated and controlled by the social marketer. Outputs, on the other hand, are those information-processing steps that must be stimulated in those receiving the message.

Inputs include the following factors (McGuire, 2001:23-35):

The source: the communicator of the message. Characteristics like age, gender, ethnicity, credibility and socio-economic status may influence the persuasive impact of the source.

The message: the information communicated to the target audience. Factors that determine the effectiveness of the message include delivery style, content organisation, length and repetition.
The channel: the mode of communication. This may be face-to-face, print and/or broadcast.
Audience characteristics: factors like age, education, intelligence and demographic variables.
The destination: the targeted behaviours and issues to be considered, including long-term versus short-term change and specific versus general behaviours.

Outputs are the stages of change from the initial exposure to communication to the long term maintenance of change within the intended receiver. There are twelve output steps necessary for permanent behaviour change to occur: exposure; attention; liking; comprehension; skill-acquisition; attitude change; memory storage; information search and retrieval from memory; decision based on retrieval; behaviour in accordance with the decision; reinforcement; and consolidation (McGuire, 2001:32; Elder, 2001:17).

The model has made a significant contribution to the field of public health communication, especially in the use of mass media (Elder, 2001:18). It is particularly relevant to the design of the promotional component of social marketing programmes, as well as the evaluation of specific components of the communication effort, as it offers both an understanding of the behaviour change process and of the ways in which this can be manipulated by the social marketer. It is also useful in nations with large rural populations where mass media is relied on to a greater extent than in urban areas where populations can be more easily reached through personal contact (Elder, 2001:18).

McGuire (2001:41) himself, however, points out some of the limitations of the model: many of the steps in the behaviour change process may be eliminated in some contexts and the steps may not always occur in the proposed order. de Groot (1980:63) in his analysis of an early version of the model, criticises it for its "linear sequential" nature – its assumption of a causal sequence of communication effects. The notion that an individual considers communication messages in a rational, step-by-step manner can be considered to be problematic, a point with which Airhihenbuwa and Obregon (2000:12) concur in their more general assessment of theories of behaviour change. Nevertheless, the similarity of McGuire's output steps to the stages described

in Rogers' adoption process as well as the hierarchy of effects model typically used in marketing – in which the proposed steps are awareness, knowledge, liking, preference, conviction, and purchase (Etzel et al, 2001:502) – confirms the durability of this kind of model of communication.

Behaviour change models, such as the three discussed above, offer important principles and concepts that can be utilised by social marketers in the design of social change programmes. However, no model is complete in itself and thus as Weinreich (1999:92) points out, a synthesis of theories relevant to a specific programme is generally more useful than a strict adherence to any one framework. Each of the models discussed above has been chosen for its applicability to the present project and will be further utilised in later chapters of this dissertation.

Criticisms of the social marketing approach

Before concluding this chapter, it would be politic to present a brief synthesis of criticisms of the social marketing paradigm. While social marketing can have a significant influence on some types of social problems, it is acknowledged that it may not be as effective for complex problems with many contributing or confounding factors, problems not under individual control, or addictive disorders (Weinreich, 1999:4). A number of authors (see for example Buchanan et al, 1994:53; Goldberg, 1995:348) problematise social marketing's focus on changing individual behaviour, suggesting that social change programmes also need to concentrate on changing the negative social structural influences (such as policy or environment) on the individual. As a consequence of this limitation, Goldberg (1995:347) advocates a move away from a conservative structural-functional tradition in the social marketing approach towards a more radical critical theory paradigm[21]. Hastings and Haywood (1994:62) counter-argue that social marketing does not necessarily ignore environmental factors, but rather works on changing these when possible (for example, social marketers have campaigned against tobacco advertising in America), and when this is not feasible, programmes and campaigns are planned around these constraints. Montazeri (1997:117) criticises the use of social marketing in the field of health as simply too expensive – in money, time, and human resources – to be used in already overburdened public

[21] This argument follows the same lines as the "diffusion/mechanistic model versus participatory/organic model" debate discussed earlier.

health systems. (However, in the same article the author cites a study that praised social marketing as a cost-effective strategy for preventing unwanted pregnancies).

In a seminal article, Buchanan and colleagues (1994:51) attack social marketing as a health promotion tool, questioning the assumptions of central tenets of the field. They criticise the relevance of the "product, place, and price" components of the marketing mix in social contexts, as these are not as easily manipulated as in commercial marketing; and write scathingly about the applicability of the consumer orientation, as the "needs" of the target audience are rarely perceived as such by anyone other than the social marketer. In their reply, Hastings and Haywood (1994) manage to debunk each of their critics' arguments, ultimately exposing a faulty understanding of social marketing as the root of the problem. In relation to the latter of the criticisms detailed above, Hastings and Haywood (1994:60) explain that the consumer orientation of social marketing views consumers as "active participants in the search for a mutually beneficial outcome", and not merely as passive recipients of the marketer's message.

As the debate described above illustrates, a negative perception of social marketing – particularly by professionals in the development and public health fields – is perhaps the greatest hindrance to the widespread acceptance of the discipline. It is what Buchanan and his colleagues (1994:56) express as a "vague discomfort with the growing enthusiasm for social marketing"; a sense that marketing is a somewhat sleazy and manipulative endeavour, best confined to the commercial arena if it has to be used at all. It might perhaps be prudent, therefore, to apply the tools and techniques of social marketing to the formidable task of convincing professionals in similar fields of the validity of the approach.

Conclusion

Although social marketing is not without its critics, it has nevertheless been recognised as an approach capable of addressing a variety of social problems, including public health issues. As an approach that can be contextualised within the broader field of development communication, social marketing's central tenet of a customer orientation contributes to its success. This analysis of the field has concentrated on the literature dedicated to the planning stages of the social marketing process, due to the focus of the research questions of this dissertation. In addition, a

critical review of three behaviour change models that are particularly applicable to the project at hand has been conducted. The next chapter will lay out the methodology for the empirical component of this dissertation.

Chapter 5: Research methodology

As the previous three chapters constitute a review of the relevant literature in the fields of HIV/AIDS, antiretrovirals and social marketing, they have served as a background to the primary research conducted as part of the present project. The primary research was divided into three stages, each of which is discussed in detail in the sections that follow. Prior to this discussion, the type of research, statement of the problem and research questions will be clarified.

Type of research

The primary research is of a descriptive nature. Durrheim (1999a:39) explains that descriptive studies "aim to describe phenomena accurately". By conducting a needs analysis among the general student population, the research aims to describe students' knowledge, attitudes and beliefs surrounding the topic of ARVs as well as the sources that have influenced them in this area. The research is not designed to provide causal explanations, but rather to discover, and provide insight into, the ARV-related needs of students that can be addressed by appropriate promotional campaigns.

In terms of the stages of social marketing research discussed in Chapter 4, the primary research undertaken for this project can be considered to be formative research (see Andreasen, 1995). It aims to address many of the issues highlighted in the strategic planning, needs assessments and target audience research stages of the framework provided in Appendix A.

Statement of the problem and research questions

In light of the complicated nature of antiretroviral therapy, the politicisation of the issue in the South African context and the resultant media hype, as well as the necessity of community support for the patient on ARVs, the communication needs of different target populations are likely to be diverse and complex. Nevertheless, at both a national and an institutional level there is a pressing need for appropriate communication about ARVs in order to influence the knowledge, attitudes and behaviour of HIV-infected individuals, individuals with AIDS and the general public. The present project will examine this issue in the context of the ARV rollout by UKZN. In conducting a needs analysis among the general student population, the present project

will probe the students' current knowledge, attitudes and beliefs about ARVs. Such research is an essential component of social marketing and a necessary precursor to the development of effective, audience-driven promotional materials around the subject[22].

The primary research will attempt to answer three major research questions:

1) What are the sources and content of the knowledge, attitudes and beliefs[23] of the general student population concerning antiretrovirals?
2) Are there significant differences in the knowledge, attitudes and beliefs of sub-groups within the general student population that may justify audience segmentation when delivering messages?
3) What are the promotion-related needs of the general student population concerning the topic of antiretrovirals?

Research design

In an endeavour to answer the research questions of this dissertation, three distinct phases of primary research were designed (although only two of the phases were eventually implemented). These phases consisted of an expert interview, questionnaires, and depth interviews. Each of the phases is detailed in the sections that follow.

Expert interview

According to Flick (2002:89), the expert interview is a form of semi-structured interview, designed to elicit very specific kinds of information from an expert in a particular field. In order to gain additional knowledge about aspects of the ARV rollout at UKZN that were not available via secondary sources, Michelle Mitchell was interviewed on 6 October 2004. Michelle Mitchell was the AIDS Programme Co-ordinator for UKZN in 2004 (she has since left the University).

[22] Although the research has been designed in line with the social marketing paradigm, only one element of the marketing mix has been addressed by the primary research: promotion. This is due to time limitations, the fact that the product and place components of antiretroviral therapy are mostly beyond the control of the University, as well as the focus on communication of the department in which this research has been conducted (Culture, Communication and Media Studies).

[23] The terms "knowledge", "attitudes", and "beliefs" are commonly used in a variety of disciplines, including social marketing. For the purposes of the present project, knowledge can be defined as "what is known...person's range of information" (Allen, 1984: 406-407), beliefs are "perception(s) held about factual matter" (Kotler and Roberto, 1989:25) and attitudes are "positive or negative evaluations of people, objects, ideas or events" (Kotler and Roberto, 1989:25).

Although a list of questions was compiled prior to the interview, the interview was also allowed to develop naturally in order to explore relevant and interesting issues that arose during the course of the conversation. Where applicable, information obtained from this interview has been included in Chapter 3 and in the discussion of results (see Appendix B for the interview questions and transcript).

Questionnaire

Questionnaire design

The largest and most important component of the primary research consisted of a questionnaire designed to assess the ARV-related promotional needs of the general student population (see Appendix C). A questionnaire design was chosen for a number of reasons. Knowledge, attitudes, practices and beliefs (KAPB) surveys, such as this one, are common research tools in the social marketing environment and are widely used in the area of health (Andreasen, 1995:109). Also, questionnaires are: the most convenient way to elicit information from large groups of respondents; relatively cheap to produce; time-efficient in terms of data collection and analysis and ensure a homogenous stimulus.

The questionnaire, after expert consultation and pre-testing, consisted of a sixteen question, two page, back-to-back format. All of the questions, with the exception of questions 3, 5, 6 and 7, required quantitative answers. A funnel approach was used, in that questions were arranged from the general to the particular and followed a logical order. Also, the format was designed to be as easy to complete as possible, in order to gain the cooperation of respondents and ensure straightforward data analysis. A brief description of each question and the motivation behind it is available in Appendix D.

A reliability analysis statistical test – Cronbach's coefficient alpha – was conducted in order to determine the reliability of the questionnaire as a measurement instrument. Durrheim (1999b:88) explains that reliability refers to the dependability of the measurement instrument; the extent to which the questionnaire will yield similar results on different occasions. The alpha test indicated an alpha value of 0.8953 for the entire questionnaire. As this is greater than 0.75, the

questionnaire can be considered to be a reliable measurement instrument (see Durrheim, 1999b:90).

Sample design

Target population:

The target population sampled for the questionnaire phase of the primary research consisted of all students currently studying at the University of KwaZulu-Natal: Howard College and Westville campuses. Students were chosen as the target population for three reasons. Firstly, as noted elsewhere, students fall within the most vulnerable age category for new HIV infections, and thus demonstrate a relatively high prevalence of HIV/AIDS. Thus, it is likely that a significant proportion of students may need ARV drugs in the future, or may know friends or family members who need support in this area. This group is thus likely to be a major target audience for future communication campaigns on this subject, both as members of the University community and as South African citizens, and thus their communication needs must be identified. Secondly, as antiretroviral drugs have recently been rolled out at UKZN, it is essential that the communication needs of students around this issue are well understood in order to develop appropriate promotional materials. Thirdly, students are an easily accessible group, and thus convenient to sample.

Only two campuses out of the five campuses that now form UKZN were selected in order to increase the feasibility of the present project: the Howard College and Westville campuses. These particular campuses were chosen as they differ in two notable aspects. As a university intended for Indian students in the apartheid era, the Westville campus has been traditionally attended by poorer students of colour (both Indian and Black African) and in this respect it differs from the Howard College campus, which is a historically more privileged institution and still has a high proportion of White students[24]. Another reason for the choice of campuses was

[24] In terms of race, in 2004 the Westville Campus student population was 54% Black African, 41% Indian, 2% White, 2% Coloured and 1% other. In contrast, the Howard College Campus student population was 45% Black African, 33% Indian, 19% White, 4% Coloured and less than 1% other (percentages rounded off to nearest whole number). Statistics for 2005 are similar (see http://www.ukzn.ac.za/dmi/ukznstats/students_cam.asp). While no figures are available to compare the financial means of the two campuses prior to the merger, anecdotal evidence and a clear physical difference visible between the two campuses in terms of resources, suggest that substantial

that as Westville had not had a nurse trained for HIV Counselling until September 2004, the rollout of antiretrovirals was not advertised at that campus until October of the same year (Mitchell, 2004: personal correspondence). Thus, Westville served as a control group, which could be usefully compared to Howard College, where the rollout has been extensively advertised since the first semester of 2004. It is possible, therefore, that the disparities between the two campuses may have influenced differences in the ARV-related knowledge, attitudes and beliefs of students at the two campuses, and thus the choice of campuses is considered justifiable.

Sampling method:

For the questionnaire, quota sampling – a type of non-probability sampling – was used to obtain a sample as representative of the general student population in certain aspects as possible[25]. Non-probability samples rely heavily on personal judgement and thus are only representative of the target population if the researcher is sufficiently skilled (Loubser, 1999b:253). In a quota sample, steps are taken "to obtain a sample similar to the population in some pre-specified characteristics" (Loubser, 1999b:254). In this case, two characteristics were considered when sampling: 1) the campus at which the respondent studied and 2) the respondent's race. The present project employed this sampling method because it was hypothesised that these two variables may have resulted in any differences in ARV-related knowledge, attitudes and beliefs within the general student population. Thus, these variables may be useful for future audience segmentation exercises. As discussed above, fundamental differences between the two campuses may have resulted in differing responses to the questionnaire. In addition, race is still considered a valuable differentiating factor in South Africa and has been used in development surveys like The Nelson Mandela/HSRC Study of HIV/AIDS (see HSRC, 2002). The previous government's policy of apartheid resulted in varying degrees of access to resources for different race groups and thus, economic, social and cultural differences are still visible among the races.

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differences did and still do exist. For a more detailed history of the two former universities, see http://www.homestead.com/leader/files/Durban_doc.pdf

[25] Although stratified sampling – the probability sampling equivalent of quota sampling – was originally proposed as a sampling method, the logistical impossibility of randomly sampling students was soon realised and thus this method was ultimately not considered feasible.

After consultation with lecturers at the two campuses, the questionnaires were distributed in classes that were considered to have a relatively representative racial composition of students. This was done to ensure that the racial demographics of the sample replicated those of each campus as closely as possible. However, owing to the fact that the questionnaires were distributed in lectures in order to maximise the response rate, it was not possible to obtain a sample that exactly mirrored the racial characteristics of each campus. In order to ensure that students at each of the two campuses were adequately represented in the total sample, an approximately equal number of questionnaires were handed out on each campus[26].

Sample size:

It was decided to use a sample size of approximately 300 (150 on each campus). At the end of the data collection period, a total of 324 questionnaires had been handed out, of which 302 were returned and usable (a response rate of 93%). The sample size was small owing to time and financial constraints, as well as the logistics involved in trying to liaise with lecturers to hand out questionnaires in their classes at the end of a term. However, the sample size was considered large enough to reveal broad trends in awareness, knowledge, attitudes and beliefs among the general student population.

Expert evaluation and pre-testing of the questionnaire

Once the initial questionnaire was designed, it was submitted to Arnold Shepperson (a tutor in Culture, Communication and Media Studies) and Lynn Dalrymple of the NGO DramAidE for evaluation. Dalrymple pointed out that this version of the questionnaire used the term "antiretrovirals" generically and thus was likely to be misconstrued by students as antiretrovirals have a number of uses in connection with HIV/AIDS. In order to rectify this, Question 4 was added to focus the students' attention on the fact that ARVs are used for a number of purposes. As the remaining questions were changed, where appropriate, so that ARVs were always mentioned in connection with the treatment of HIV/AIDS (and thus not as a prophylactic), it was hoped that the students would answer the questions in line with what they knew, believed and

[26] As of 16 September 2004, the Howard College campus had a total of 20250 students while the Westville campus had a student body of 12443 (http://www.ukzn.ac.za/dmi/ukznstats/students_cam.asp). Theoretically therefore, fewer questionnaires should have been handed out at Westville. However, due to the already small sample size it was decided to hand out approximately equal numbers of questionnaires at the two campuses.

thought about ARVs *for the treatment of HIV/AIDS*. Once these changes had been made, the questionnaire was also submitted to Michelle Mitchell, formerly of UKZN's AIDS Programme, for her comments.

Before pre-testing the questionnaire, it was submitted to Professor Johan Jacobs, then Head of the School of Graduate Studies, Faculty of Human Sciences, for ethical approval and to Dr. Devi Rajab, Dean of Student Development, for approval to hand out on the two campuses. Approval was granted in both cases.

Pre-testing of a questionnaire is essential to ensure that it is able to perform the functions for which it was designed (Loubser, 1999a:232). In a pre-test, respondents from the target population are asked to complete the questionnaire as it exists at that time, point out features of the questionnaire that may need to be changed and suggest questions that may need to be added (Bourque and Fielder, 2003:84).

In order to pre-test this questionnaire, a convenience sample of eight students (one Black African, two Indian and five White students) from the Howard College campus was used. The students were asked to complete the questionnaire and then give feedback as to the clarity of the questions, any difficulties they experienced and any suggestions they had to improve the questionnaire design. In general, the students found the questionnaire easy to understand and answer. However, the following issues came to light as a result of the pre-test:

- One student noticed that the term "HIV/AIDS" was used for some questions, while the terms "HIV" or "AIDS" was used for others. This inconsistency was rectified except for Question 12 ("If I knew someone who was sick with AIDS...") as once a person becomes sick as a result of the disease, they are medically classified as having AIDS.
- One student mentioned that Question 4 ("In which context have you heard of antiretrovirals?") was confusing until he read the options available to choose from. As this point was not raised by any other student, it was decided to leave the question as it stood.
- Question 5 ("What do you think are the main benefits of antiretroviral drugs *when used to treat HIV/AIDS?*"- italics added) was misunderstood by one student. She answered that

the main benefit of the drugs was to prevent mother-to-child transmission of HIV/AIDS. As the other students in the pre-test did not have this problem and every attempt has been made to clarify the issue (particularly through the addition of Question 4), the question was not adjusted. However, it was recognised that the question may be open to some misinterpretation.

Data collection

The questionnaires were distributed and collected on the two campuses from 11 October 2004 to 5 November 2004. As mentioned above, the questionnaires were distributed and collected during a lecture slot in order to maximise the response rate. An attempt was made to distribute the questionnaires across faculties and years of study in order to minimise bias and to obtain as representative a sample as possible. Prior to the questionnaire being handed out, instructions were given to the students. The voluntary nature of the questionnaire was emphasised and the students were assured that their responses would be anonymous in order to ensure their cooperation and the completion of the questionnaire. It was stressed that every respondent needed to complete the demographic question (Question 16) even if they answered "no" to the first question. While the questionnaire was being completed by the students, every effort was made to ensure that they did not discuss the questionnaire with their peers, as this could have produced inaccurate results. I was present throughout the time to answer any questions that the students had.

Data analysis

Data editing:

According to Martins (1999:295), editing "entails a thorough and critical examination of a completed questionnaire in terms of compliance with the criteria for collecting meaningful data and in order to deal with questionnaires not duly completed" For the purposes of this research study, each questionnaire was scrutinised for compliance with the following criteria:

- **Completeness:** if a high number of questions were unanswered or the demographic questions had not been answered and thus the questionnaire was unable to be analysed, it

was discarded. If only a few questions were left unanswered, these were coded as "no answer".

- **Legibility and comprehensibility:** these criteria were especially important when analysing the qualitative responses to Questions 5, 6 and 7 of the questionnaire. When answers were illegible or incomprehensible, they were coded as "no answer".
- **Relevance:** this criterion was particularly important for open-ended Questions 5, 6 and 7 as respondents are more likely to have misunderstood these questions than the questions with structured responses, and thus are more likely to have given irrelevant answers. As this may point to a need for further information on ARVs, this was taken into account when coding these answers. When answers were not relevant to the question, they were coded as "incorrect answer".

Data coding:

The coding system used for the questionnaires can be seen in Table 5.1 below:

Table 5.1: Coding of data for the questionnaire

Question/s	*Coding*
All questions:	0 = no answer or incomprehensible/illegible answer
Questions 1, 14, 15:	1 = yes, 2 = no
Questions 2 and 4:	For each option, 1 = yes (tick) and 2 = no (no tick)
Question 3:	For the options AZT, Nevirapine and other ARV brand name, 1 = yes (mentioned) and 2 = no (not mentioned)
Question 5:	For each of the categories (biological advantages, social advantages, incorrect answer, other) 1 = yes (mentioned), 2 = no (not mentioned)
Question 6:	For each of the categories (side effects, lifelong treatment, careless sexual behaviour, adherence, access, incorrect answer, other), 1 = yes (mentioned), 2 = no (not mentioned)
Question 7:	For each of the categories (safe sexual behaviour, exercise, healthy eating/vitamins, alternative therapies, incorrect answer, other, none) 1 = yes (mentioned), 2 = no (not mentioned)
Question 8, a, b and c:	1 = true, 2 = false
Question 9-13:	5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree
Question 16 (campus):	1 = Westville, 2 = Howard College

Question 16 (faculty)[27]:	1 = Commerce and Management/Management Studies, 2 = Humanities/Human Sciences, 3 = Science, 4 = Engineering, 5 = Law, 6 = Education , 7 = Health Sciences, 8 = Community and Development Disciplines (CADD)
Question 16 (sex):	1 = female, 2 = male
Question 16 (race):	1 = Black/African, 2 = White, 3 = Indian, 4 = Coloured, 5 = Other
Question 16 (background):	1 = urban, 2 = rural

For Questions 3, 5, 6, and 7, the thematic categories used to code the answers were only determined once data collection had taken place. A number of the questionnaires were perused so as to determine the most common and relevant themes that could be used to categorise the qualitative data.

Data capturing:

The data was captured onto the computer for analysis, using the SPSS computer programme.

Data analysis:

For all questions: frequency distributions and percentages were calculated for the answers to all questions, both for the overall sample, and for each campus and racial group. The use of percentages allowed data to be represented in pie-charts and/or bar graphs. Descriptive statistics (mean, median, mode, standard deviation and variance) were also calculated for each question.

Although frequency distributions, percentages and descriptive statistics are useful in presenting the answers of the sample to the questions, they are not sufficient to determine whether any differences that exist between sub-groups of the sample are due simply to chance or to fundamental differences in knowledge, attitudes or beliefs among different populations. Thus, statistical tests have been used to determine whether any differences that exist between students from different campuses or races are statistically significant[28] and therefore noteworthy. Before

[27] When faculties across the two campuses are similar, but had different names in 2004, they have been coded as one category. However, both names are given here where applicable, with the faculty name of the Westville campus being given first, followed by that of the Howard College campus. In 2005, faculty names were standardised across all the campuses.

[28] If the differences are "statistically significant", then the differences between sub-groups of the sample are too large to have occurred by chance and thus are probably due to differences between populations (see Durrheim, 1999c).

describing the statistical tests used, it should be noted that the explanation of the tests assumes some basic statistical knowledge on the part of the reader.

For questions 1-8, 14 and 15: as the data obtained from these questions is nominal, the chi-square (non-parametric) test was used to test for significant relationships between each dependent variable and race/campus. If the probability (or p) value[29] is less than 0.05[30], then the chi-square value is significant and there is a significant association between the two variables. Cross-tabulations that included expected counts for each category of each variable were also utilised in order to identify patterns or trends in the data.

For questions 9-13: in order to discover whether there were significant differences between students from different race groups in their response to these questions, the Kruskal-Wallis test has been used. As the data obtained from these questions is ordinal, a non-parametric procedure must be used to test for differences between multiple groups (Loubser, 1999c:340). The Kruskal-Wallis test is the non-parametric alternative to one-way analysis of variance. Where significant differences between the races are indicated by a small p-value (less than 0.05), a Mann-Whitney U test has been used to perform pair-wise comparisons, in order to find out where the differences lie.

In order to test for significant differences between students from the two campuses in their response to these questions, the Mann-Whitney U test was used. This is the non-parametric alternative to the t-test for two independent samples (Loubser, 1999c:339).

Depth interviews

In order to gain a deeper, more qualitative understanding of the ARV-related promotional needs of the general student population, depth interviews with students already on ARVs were planned. The target population for this phase of the research would have been all students at the University of KwaZulu-Natal, on any of the five campuses (due to the small number of students on ARVs under the supervision of the campus clinics, sampling only two campuses would have

[29] The p-value is "the chance that that there is no relationship between variables in the population, or that there is no significant differences between groups" (Durrheim, 1999c:118).
[30] The significance level has been set at 0.05 for all of the tests used.

been unlikely to elicit sufficient numbers of respondents). According to Bennett (1999:134-135), depth interviews are particularly useful when the issue under investigation is complex and involves attitudes, beliefs and feelings. As students on ARVs under the auspices of the campus clinics are essentially "success stories", their insight into various issues would have been valuable in determining the steps that the University needs to take to move other students towards the same point. The depth interview questions were designed to complement the information obtained from the questionnaire (see Appendix E for the covering letter to students and the depth interview outline).

Unfortunately, although ethical clearance was applied for well in advance, the bureaucratic nature of the University's new ethical review system resulted in a lengthy delay in obtaining ethical clearance. Thus, there was insufficient time before the due date of this dissertation to recruit students and conduct the depth interviews. It is acknowledged that these interviews would have formed a valuable addition to the information obtained from the other two phases of the primary research.

Conclusion

This chapter has laid out the methodology of the primary research, which has been conducted in line with the tenets of the social marketing approach. The main purpose of the research is to gain insight into the ARV-related knowledge, beliefs and attitudes of the general student population; thus allowing an analysis of the students' future promotional needs. The type of research, statement of the problem, and the research questions have been elucidated in order to lead the reader into the research design. Thereafter, each of the three phases – expert interview, questionnaires and depth interviews – has been described in detail. Chapter 6 will present the results of the questionnaire phase of the primary research, while Chapter 7 will critically discuss these results in relation to relevant theory.

Chapter 6: Findings

This chapter will present the findings of the questionnaire phase of the primary research (information obtained from the expert interview has been included in other chapters where appropriate). Although the data generated from the questionnaire is substantial, space limitations prevent a lengthy description of each and every possible level of analysis. Thus, only the most pertinent findings have been described, with other interesting but less important data available in the appendices.

Caveats

The findings related to the questionnaire have been grouped according to the knowledge, attitudes and beliefs of respondents that they represent, rather than in the order in which the questions were asked. Not only is this more interesting and reader friendly, it is also the format which will be used in the discussion of results. Before delving into the findings, a few points should be noted. Firstly, due to space limitations, only the frequency distributions for the total sample have been discussed. Where there are statistically significant relationships between dependent variables and race or campus, these will be described. Otherwise, tables of frequencies that indicate the responses of students from different races and campuses to the questions are available in Appendix F, as are measures of central tendency and dispersion. The results of the statistical tests used can be found in Appendix G, as can important details pertaining to the tests. Secondly, only where the non-response rate for a question is more than 5% will this statistic be given and discussed. Otherwise, it can be assumed that the proportion of respondents who did not answer a question is less than 5%. Thirdly, as Coloured respondents constituted only 2.6% of the total sample and "Other" respondents only 0.7%, these race groups have not been included in the statistical tests used. However, they do form part of the frequency distributions given for the overall sample. Finally, the results of the statistical tests have been presented in standard statistical language in this chapter. In Chapter 7 they will be interpreted and discussed in a manner more accessible to the layman.

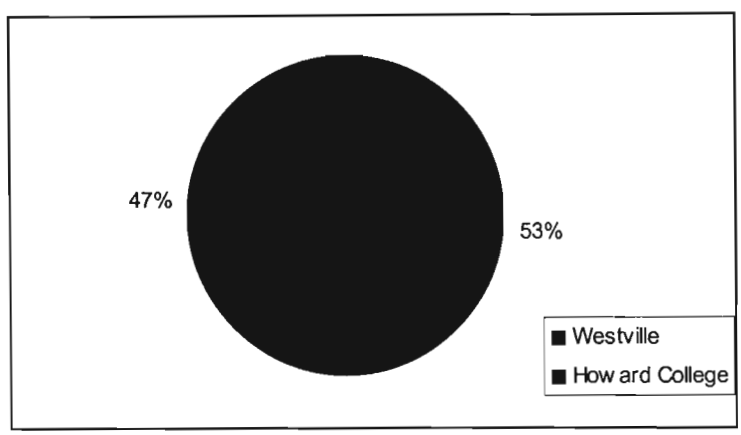
Description of the sample

(Question 16: In order to statistically analyse this questionnaire I require some demographic information from you.)

Campus

As planned, the sample was fairly evenly split between the two campuses surveyed, with 53% of respondents studying at the Westville campus and 47% at the Howard College campus. The distribution of respondents between the campuses is illustrated in Figure 6.1 below:

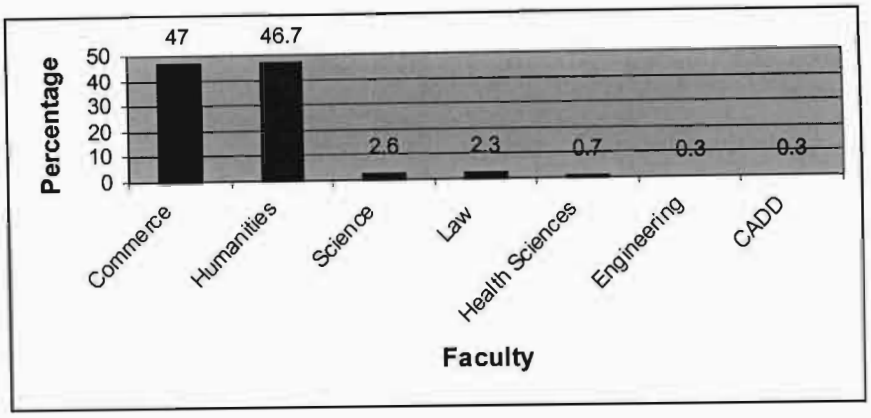
Figure 6.1: Campus



Faculty

Commerce and Management/Management Studies students (47%) and Humanities/Human Sciences students (46.7%) formed the bulk of the sample. The remainder of the respondents were from the Science (2.6%), Law (2.3%), Health Sciences (0.7%), Engineering (0.3%) and CADD (0.3%) faculties. The breakdown of the sample by faculty is shown in Figure 6.2 below:

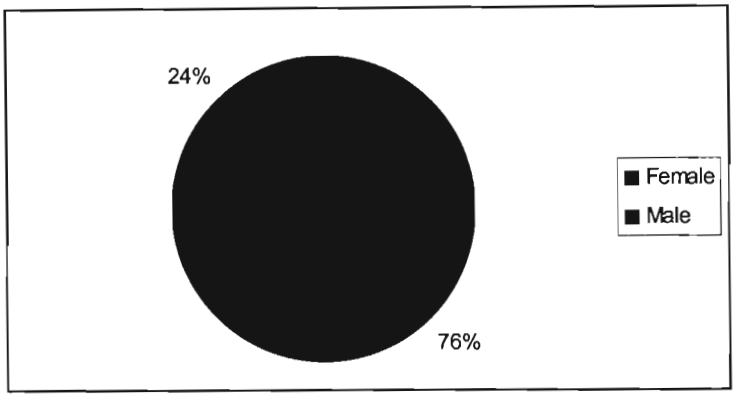
Figure 6.2: Faculty



Sex

The majority of students (75.8%) were female and only 24.2% of the total sample was male (in the general student population, 55% of students were female and 45% were male in 2004[31]). This outcome was unintended and, unfortunately, not a variable that was controlled for. The sex of the respondents is illustrated in Figure 6.3:

Figure 6.3: Sex



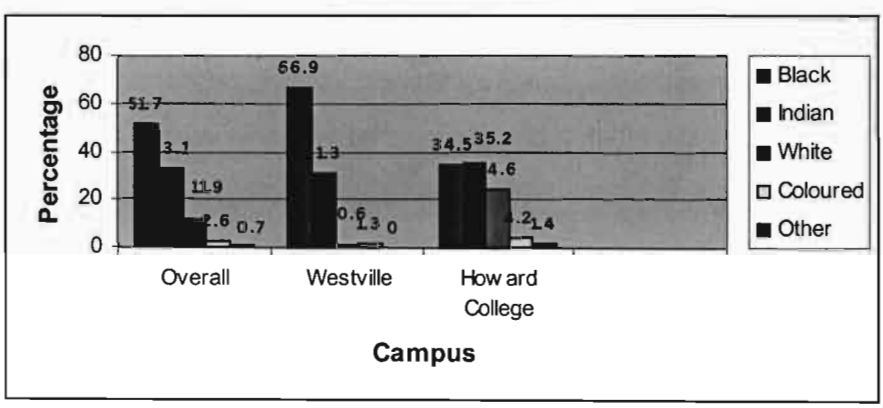
Race

In the overall sample, the majority of students were Black (51.7%), followed by Indians (33.1%), Whites (11.9%), Coloureds (2.6%) and "Other" (0.7%). Of the students sampled from the Westville campus, 66.9% were Black, 31.3% Indian, 1.3% Coloured, 0.6% White and none were

[31] The gender breakdown of the general student population in 2004 is available at: http://www.ukzn.ac.za/dmi/downloads/stats_students.pdf

"Other" (compared to a total 2004 Westville student population of 54% Black Africans, 41% Indians, 2% Whites, 2% Coloureds and 1% "Other"). Out of the students from the Howard College campus, 35.2% were Indian, 34.5% were Black, 24.6% were White, 4.2% were Coloured and 1.4% were "Other" (compared to a 2004 Howard College total student population of 45% Black African, 33% Indian, 19% White, 4% Coloured and less than 1% "Other"[32]). The difficulties of obtaining an entirely representative sample have been discussed in Chapter 5, but nevertheless the samples obtained from the two campuses were, in general, fairly representative of the racial composition of the two student populations. The racial composition of the overall sample, as well as the sample split by campus, can be seen in Figure 6.4 below:

Figure 6.4: Race

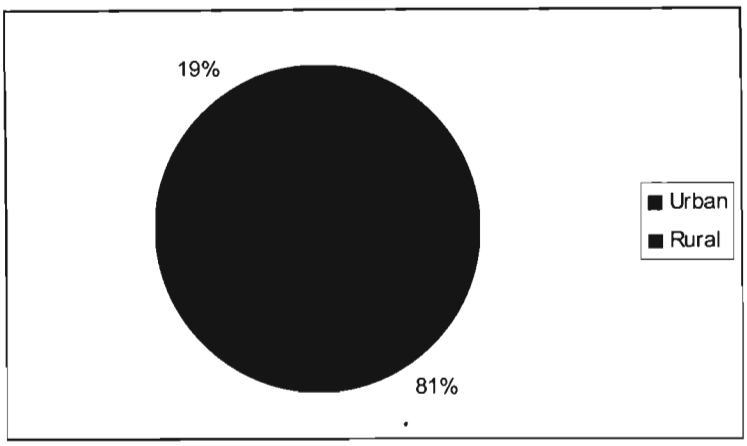


Background

As can be seen in Figure 6.5 below, the majority of students (80.5%) came from an urban background, while only 18.9% came from a rural background. It is noteworthy that a higher percentage than the average of Blacks and Westville students came from rural backgrounds: 32.1% and 28.1% respectively.

[32] The racial breakdown of the two campuses in 2004 is available at: http://www.ukzn.ac.za/dmi/ukznstats/students_cam.asp

Figure 6.5: Background



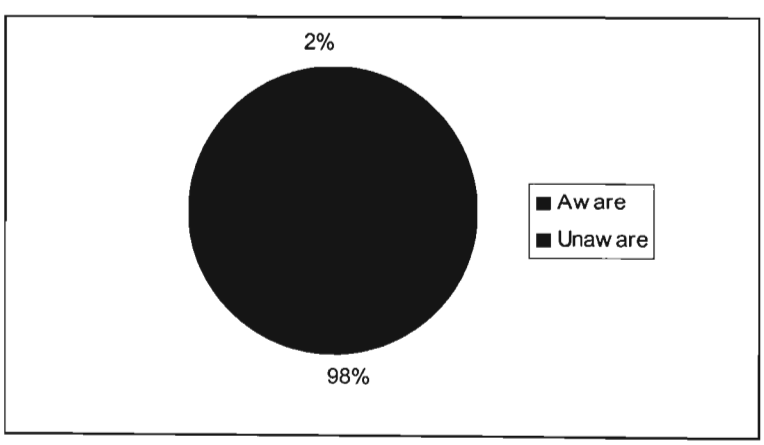
Knowledge-related questions (Questions 1, 3, 4, 8, 14)

Awareness of antiretrovirals

(Question 1: Have you ever heard of "antiretrovirals" or "ARVs"?)

Awareness of antiretrovirals was extremely high among the sample, with 98% of all respondents having heard of antiretrovirals or ARVs and only 2% unaware of the drugs. The results are illustrated in Figure 6.6 below:

Figure 6.6: Awareness of antiretrovirals



Chi-square tests were conducted in order to determine whether there are statistically significant relationships between race and/or campus and awareness of antiretrovirals. The results indicate

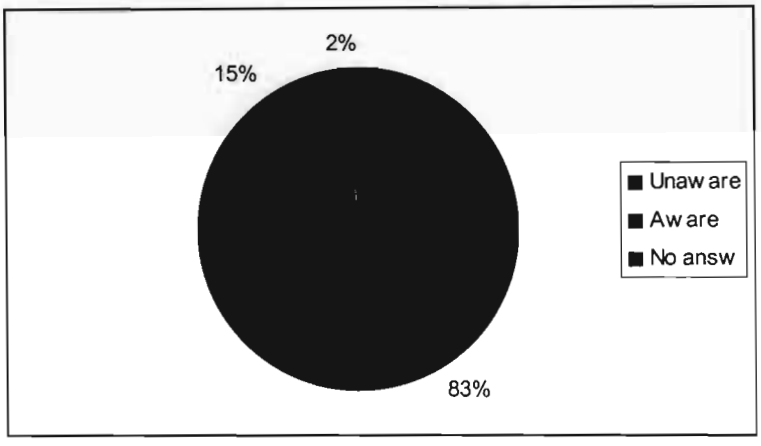
that there is no significant relationship between awareness of ARVs and race (p=0.947), or between awareness of ARVs and campus (p=0.132).

Awareness of University rollout

(Question 14: Are you aware that the university provides access to cheap antiretroviral treatment for students and staff with HIV/AIDS?)

In contrast to a general awareness of ARVs, awareness of the rollout at UKZN was extremely low. The majority (82.5%) of the sample was unaware that the University provides access to cheap antiretroviral treatment for students and staff with HIV/AIDS, and only 15.2% were aware of this fact. The distribution of answers is illustrated in Figure 6.7 below:

Figure 6.7: Awareness of University rollout



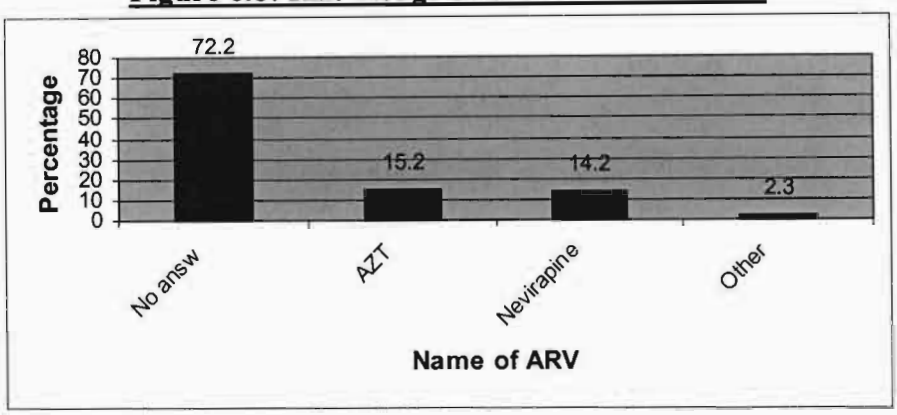
Chi-square tests do not reveal a statistically significant relationship between awareness of the university rollout and race (p=0.253). However, the results do indicate a significant relationship between awareness of the university rollout and campus (p=0.024). A statistically significantly larger proportion of Howard College students, and a smaller proportion of Westville students, were aware of the rollout than would have been expected had campus and awareness of the rollout not been associated.

Knowledge of antiretroviral names

(Question 3: If you know the names of any antiretrovirals, please write them here.)

The majority (72.2%) of the total sample did not answer this question, presumably because they did not know the names of any antiretroviral drugs or were not prepared to give a written answer. However, 15.2% mentioned AZT and 14.2% mentioned Nevirapine (or Virimune, a brand name for the same drug). 2.3% stated the names of other ARVs, including Stocrin, 3TC and d4T. The sample's knowledge of the names of ARVs is illustrated in Figure 6.8 below:

Figure 6.8: Knowledge of antiretroviral names



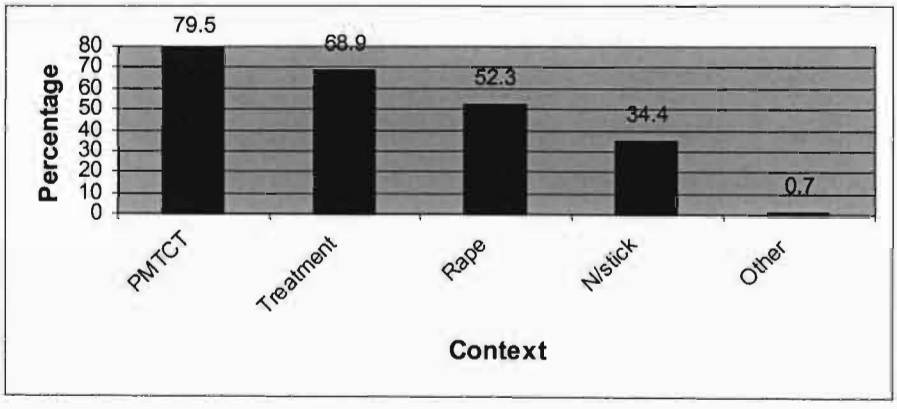
The results of the chi-square tests conducted indicate that there are no significant relationships between knowledge of AZT, Nevirapine or any "other" ARV name and race (p=0.259; p=0.235; p=0.252 respectively). However, the tests do show significant relationships between each of the dependent variables (AZT, Nevirapine and "other") for this question and campus (p=0.002 for each variable). In each case, a higher proportion of Westville students, and a lower proportion of Howard College students, recalled the names of ARV drugs than would have been expected if knowledge of ARV names and campus had not been associated. Also, more Westville students, and less Howard College students, *did not* recall AZT, Nevirapine or an "other" ARV than would have been expected had there been no association between variables. Thus, for this question, the trend in the data is not particularly clear.

Knowledge of different contexts in which antiretrovirals are used

(Question 4: In which context have you heard of antiretrovirals?)

The majority (79.5%) of respondents had heard of antiretrovirals in the context of preventing mother to child transmission of HIV; 68.9% in the context of treating adults and children with HIV/AIDS; 52.3% knew about their use as a precaution after rape and 34.4% were aware that the drugs could be taken after a needlestick injury as a prophylactic measure. Less than 1% had heard of the drugs in a context other than those mentioned. The sample's knowledge of different contexts in which antiretroviral drugs are used is illustrated in Figure 6.9 below:

Figure 6.9: Knowledge of different contexts for antiretroviral use



Chi-square tests performed to assess the relationship between knowledge of different contexts for ARV use and race did not yield statistically significant results for the variables rape (p=0.074); prevention of mother to child transmission (p=0.382); treatment of HIV/AIDS (p=0.097) or "other" (p=0.145). However, the results do indicate a statistically significant relationship between knowledge of ARVs in the context of needlestick injuries and race (p=0.001). A higher proportion of White and Indian students, and a lower proportion of Black students, were aware of this context for ARV use than would have been expected if there were no association between the variables.

Similarly, the tests do not reveal statistically significant relationships between campus and students' knowledge of antiretrovirals used in the contexts of rape; the prevention of mother to child transmission; the treatment of adults and children with HIV/AIDS or "other" contexts

(p=0.078; p=0.416; p=0.352 and p=0.138 respectively). However, there is a statistically significant relationship between knowledge of antiretrovirals used in the context of needlestick injuries and campus (p=0.000). A higher proportion of Howard College students, and a lower proportion of Westville students, were aware of this context than would have been expected if there were no relationship between the variables.

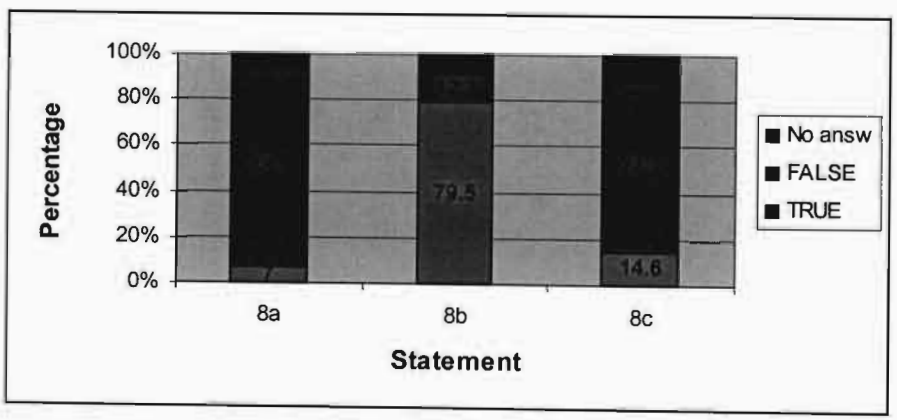
Knowledge of antiretrovirals and access (Question 8)

In general, respondents had a good grasp of the basic facts concerning ARVs and access to the drugs. For statement 8a ("When used as a treatment for HIV/AIDS, antiretrovirals are a cure for HIV/AIDS") the majority of students (86.1%) stated correctly that this was false. 7% answered that the statement was true, while another 7% did not answer the question.

For statement 8b ("When used as a treatment for HIV/AIDS, antiretrovirals are taken for the rest of a person's life"), most respondents (79.5%) answered correctly that this was true. 12.3% stated that this was false, while another 8.3% did not answer the question.

For statement 8c ("When used as a treatment for HIV/AIDS, antiretrovirals are given to anybody who asks for them"), most of the students surveyed (74.2%) again answered correctly, stating that this was false, while only 14.6% believed that the statement was true. 11.3% did not answer the question. A visual summary of the responses to these three statements is provided in Figure 6.10 below:

Figure 6.10: Knowledge of antiretrovirals and access



Chi-square tests do not reveal a significant relationship between statement 8a, 8b or 8c and race (p=0.316; p=0.527 and p=0.374 respectively). Similarly, the results do not indicate a significant relationship between any of the three statements and campus (p=0.074; p=0.679 and p=0.727 respectively).

Belief-related questions (Questions 5, 6, 7)

Beliefs about the benefits of antiretrovirals

(Question 5: What do you think are the main benefits of antiretroviral drugs when used to treat HIV/AIDS?)

The majority of respondents (64.2%) discussed the biological advantages of ARVs in their answers to this question. Although not all answers were absolutely correct from a technical viewpoint, most respondents noted that ARVs allowed people with HIV/AIDS to live longer, healthier lives and that the drugs dramatically improved the strength of the immune system. Three answers that typify the response to this question are reproduced below:

> "The main benefit is that it helps you fighting disease and boosting your immune system".
> "It would improve the general well-being of people suffering from HIV/AIDS and would lengthen their lives."
> "They reduce the speed of the virus and increase the CD4 cells."

The remainder of the responses to this question were as follows:

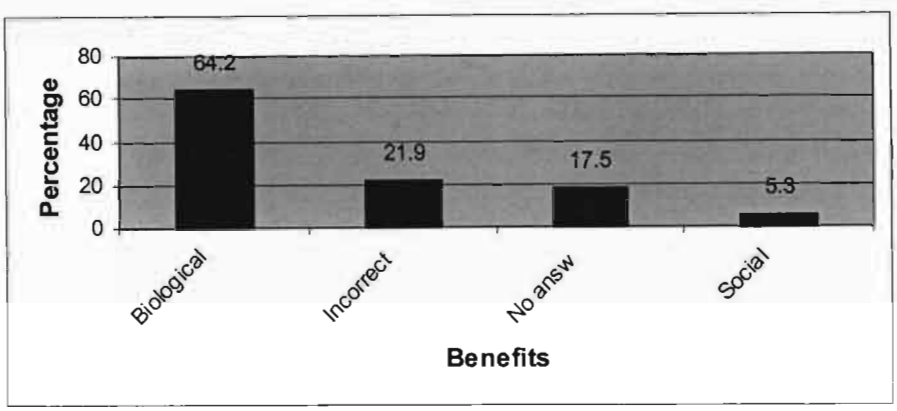
- A very small percentage (5.3%) of respondents pointed out the social advantages of the drugs. Answers that fell under this category included those that mentioned that ARVs allowed the infected individual to stay with his or her loved ones for longer, and those that discussed how the use of ARVs could reduce the negative effects of the virus on the individual's community.
- A large proportion (21.9%) of the sample gave an incorrect answer for this question, generally because they had misread or misunderstood the question and thus answered it

in relation to ARVs used to prevent mother to child transmission of HIV or those used after rape.

- A high percentage of students (17.5%) did not answer this question, presumably because they did not know enough about ARVs to do so, or did not want to take the necessary time and effort to answer.

The sample's beliefs about the benefits of antiretroviral drugs for the treatment of HIV/AIDS have been summarised in Figure 6.11 below:

Figure 6.11: Beliefs about the benefits of antiretrovirals



Chi-square tests indicate that there is a significant relationship between a biological answer and race (p=0.010); between a social answer and race (p=0.017); between an incorrect answer and race (p=0.005) and between an "other" answer and race (p=0.003). A larger proportion of Black and White students, and a smaller proportion of Indian students, mentioned the biological benefits of ARVs than would have been expected if there were no association between race and this variable. A larger proportion of Black and White students, and a smaller proportion of Indians, than would have been expected were there no association between the variables, did not mention the social benefits of ARVs. More Blacks and Whites, and less Indians, did not give an incorrect answer for this question than would have been expected had there been no relationship between the variables. A larger proportion of Black and White students, and a smaller proportion of Indian students, than would have been expected if there were no relationship between the variables did not mention "other" benefits of ARVs.

Statistical tests show that there is no statistically significant relationship between a biological answer and campus (p=0.104); between an incorrect answer and campus (p=0.327) or between an "other" answer and campus (p=0.136). However, there is a statistically significant association between a social answer and campus (p=0.014). A higher proportion of Westville students, and a lower proportion of Howard College students, gave a social answer than would have been expected had there been no association between the two variables.

Beliefs about the disadvantages of antiretrovirals

(Question 6: What do you think are the main disadvantages of antiretroviral drugs when used to treat HIV/AIDS?)

This question was a particularly interesting one, with a variety of answers being given, as illustrated by the following examples:

> "Side effects, need to be taken in conjunction with a healthy balanced diet few infected people can afford. No guarantee they will work."
> "People may use it as an excuse to not be careful when it comes to AIDS. It can often also be seen as a definite cure."
> "Because it is not a cure [and] not many disadvantaged people can afford nor have access to the drugs."

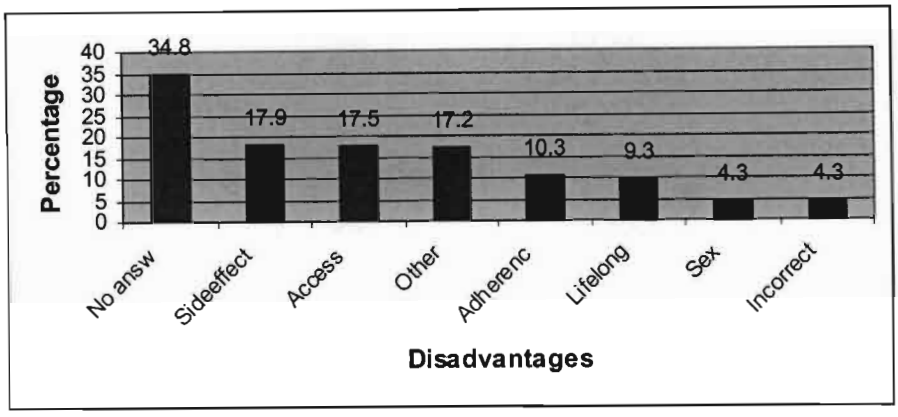
The breakdown of answers to Question 6 is described below:

- 17.9% of the students sampled saw unpleasant physical side effects as a disadvantage of antiretroviral drugs.
- 17.5% of respondents mentioned difficulties in accessing the drugs as a major drawback; either because of the expense involved or because of government policies that result in only relatively few individuals being able to access treatment.
- 10.3% of the sample discussed possible problems with adherence; some stating that people may not know how to use the drugs correctly, others mentioning that poor people may not have adequate food available and so could not take the drugs with food as is often recommended.

- 9.3% saw the fact that ARVs are a life-long treatment and/or not a cure for AIDS as a drawback.
- 4.3% believed that the provision of ARVs could encourage careless sexual behaviour, either before or after contracting HIV. Some respondents discussed how HIV negative individuals might indulge in reckless behaviour knowing that they would be given ARVs if they contracted the virus. Others expressed their concern that ARVs would allow HIV positive individuals to live longer and that they would then continue to practise risky sexual behaviour.
- Quite a large percentage (17.2%) of students gave an answer that could not be placed into any of the categories above. Responses that fell under "other" were diverse and creative. Some respondents wrote that it was likely that people would have false expectations or misconceptions of what ARVs could really do; others questioned the drugs' efficacy and some suggested that the drugs could even cause death. One student mentioned that the drugs had not been advertised extensively. A few respondents mentioned the expense of the drugs to the Government and the economy as well as the individual taxpayer. Some respondents also voiced their concern that the drugs, or fake replicas of the drugs, would be sold on the black market.
- 4.3% gave an incorrect answer, again because most of these respondents misunderstood that the question was only about ARVs when used to treat HIV/AIDS, and not in other circumstances.
- A sizeable proportion of respondents (34.8%) did not answer the question at all; this may have been because they did not believe that there were any disadvantages to the drugs, or because they did not feel like preparing a written answer to the question.

The students' responses to the question are illustrated in Figure 6.12 below:

Figure 6.12: Beliefs about the disadvantages of antiretrovirals



The chi-square tests reveal significant relationships between each of the dependent variables for this question (side effects, lifelong treatment, careless sexual behaviour, adherence, access, incorrect answer, other) and race (for each of the tests, p=0.000). A higher proportion of Black students, and a lower proportion of White and Indian students, discussed the side effects of ARVs, the lifelong nature of treatment, the issue of adherence, an "other" disadvantage and gave an incorrect answer than would have been expected had there been no relationship between the variables in each case. A larger proportion of Blacks and Whites, and a smaller proportion of Indians, than would have been expected had there been no association between the variables mentioned careless sex in their answers. A larger proportion of White students, and smaller proportions of Black and Indian students, mentioned the problem of access than would have been expected were there no relationship between the variables.

The chi-square tests show that there are no statistically significant relationships between any of the dependent variables and campus (p=0.158; p=0.316; p=0.479; p=0.171; p=0.067; p=0.530 and p=0.209 respectively).

Beliefs about other options to treat HIV/AIDS

(Question 7: What other options do you know of to treat HIV/AIDS?)

Many of the major themes expressed by students in their responses to this question are summed up in the answer of one student, below:

> "Eating healthy, exercising, not smoking or drinking, drinking immune boosters and being healthy mentally."

The breakdown of answers is presented below:

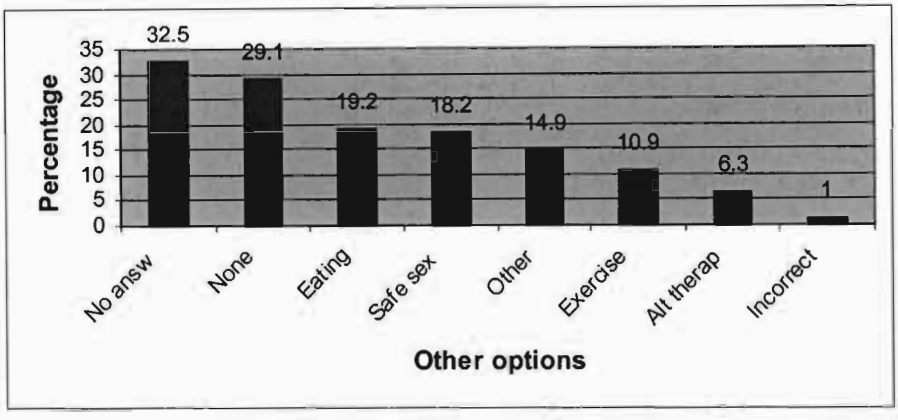
- A large proportion of students (29.1%) stated that they knew of no other options (i.e.: other than ARVs) to treat HIV/AIDS, although many then went on to describe complementary practices that should be adopted by people with HIV/AIDS.
- 19.2% discussed the importance of eating healthily and/or taking vitamins.
- 18.2% wrote about safe sex, including abstinence. Most respondents mentioned safe sexual practices in terms of a preventative action so as not to contract HIV in the first place. The remainder stated that even after contracting the virus, safe sex should still be practised.
- 10.9% mentioned that individuals with HIV/AIDS should exercise regularly.
- 6.3% of the sample mentioned alternative therapies as an option to treat HIV/AIDS; the therapies described were mainly traditional/African healers, but prayer and immune-boosting medications were also mentioned. It is noteworthy that while only 4% of respondents discussed African/Zulu/traditional medicines or healers in their answer to this question, 83.3% of these answers were from students from the Westville campus, while only 16.7% were from Howard College campus students. Most of the respondents who discussed traditional medicines were Black (83%) and from rural backgrounds (75%).
- 14.9% of the sample gave answers that did not fall into the categories mentioned above. Some mentioned the importance of avoiding cigarettes, alcohol and drugs, while others talked more generally about living a healthy lifestyle. A number mentioned the importance of a healthy mental attitude and/or living "positively", while others discussed

the value of getting support from family and friends and going for counselling if necessary. A few students talked about the importance of prevention and early detection; a couple mentioning the role of awareness campaigns and one student stating the importance of knowing one's HIV status.

- 1% of the sample answered the question incorrectly, giving outlandish answers that did not fit into any of the other categories.
- The majority of students (32.5%) did not answer the question, presumably due to lack of knowledge on the topic or an unwillingness to write an answer.

Respondents' beliefs about other options to treat HIV/AIDS are summarised in Figure 6.13 below:

Figure 6.13: Beliefs about other options to treat HIV/AIDS



Chi-square tests reveal significant relationships between each of the dependent variables (safe sex, exercise, healthy eating/vitamins, alternative therapies, incorrect, other and none) and race ($p=0.004$; $p=0.000$; $p=0.000$; $p=0.003$; $p=0.005$; $p=0.012$ and $p=0.000$ respectively). A larger proportion of Black students, and a smaller proportion of White and Indian students, mentioned safe sex, exercise, healthy eating/vitamins, alternative therapies and "other" options than would have been expected had there been no association between the dependent and independent variables in each case. More Blacks, and less Whites and Indians, did not give an incorrect answer and did not mention that they knew of no other options to treat HIV/AIDS than would

have been expected had there been no relationship between the dependent and independent variables in each case.

The results indicate that there are no statistically significant relationships between the variables safe sex and campus (p=0.660); exercise and campus (p=0.628); healthy eating/vitamins and campus (p=0.976); alternative therapies and campus (p=0.365); incorrect and campus (p=0.891) or "other" and campus (p=0.561). However, there is a significant association between campus and the variable "none" (p=0.025). Fewer Westville students, and more Howard College students, than expected had there been no association between the variables stated that they knew of no other options to treat HIV/AIDS.

Attitude-related questions (Questions 9, 10, 11, 12, 13)

Attitudes towards UKZN's ARV rollout (Question 9)

The majority of students held a positive attitude towards the provision of ARVs by UKZN. For the statement "The university should supply cheap antiretrovirals to students and staff with HIV/AIDS", 73.2% either strongly agreed or agreed with the statement, 15.6% were neutral, and 8.9% strongly disagreed or disagreed.

Attitudes towards those with HIV/AIDS (Question 10)

Most respondents did not express attitudes of stigma or discrimination towards people with HIV/AIDS (PWHA). For the statement "Most people with HIV/AIDS have sinned and do not deserve treatment", 91.7% strongly disagreed or disagreed with the statement, 4.3% were neutral, and only 2% strongly agreed or agreed.

Attitudes towards VCT (Question 11)

Most students had a positive attitude towards voluntary counselling and testing. For the statement "If I had a friend who thought they might be infected with HIV/AIDS, I would advise them to go for voluntary counselling and testing (VCT)", the majority of students surveyed (91.4%) strongly agreed or agreed with the statement, 4.6% were neutral, and only 2% strongly disagreed or disagreed with the statement.

Attitudes towards ARV treatment (Question 12)

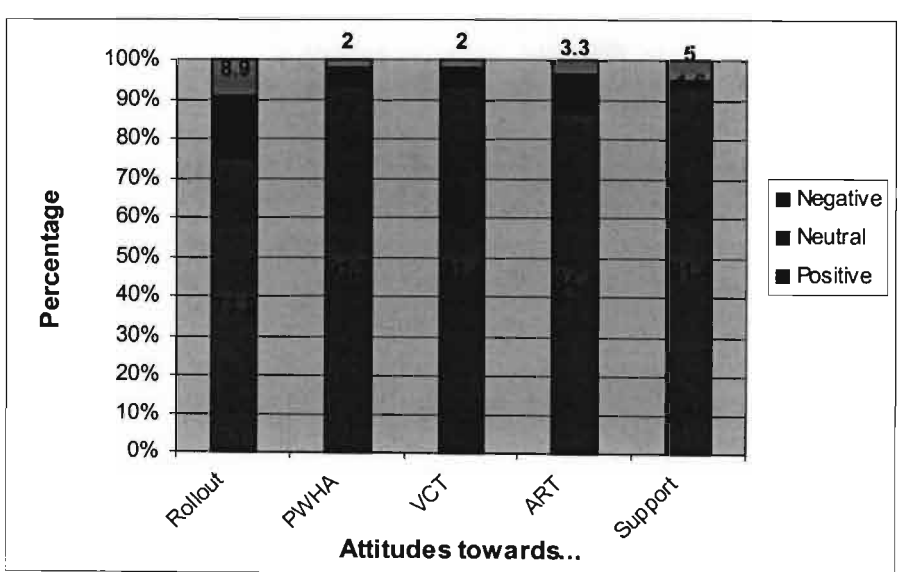
The majority of respondents had a positive attitude towards antiretroviral treatment. A high percentage (84.4%) either strongly agreed or agreed with the statement "If I knew someone who was sick with AIDS, I would advise them to get antiretroviral treatment"; while 9.6% of respondents chose to remain neutral and 3.3% strongly disagreed or disagreed with the statement.

Attitudes towards supporting those on ARVs (Question 13)

The overwhelming majority of students surveyed indicated that they would be prepared to offer support to an individual on antiretroviral drugs. 91.4% strongly agreed or agreed with the statement "If I knew someone on antiretrovirals for the treatment of HIV/AIDS, I would be prepared to offer them support (for example by reminding them to take their medication)". A mere 1.6% strongly disagreed or disagreed with the statement, while 5% were neutral.

Figure 6.14 illustrates the sample's attitudes towards the issues discussed above:

Figure 6.14: Attitudes towards antiretroviral-related issues



Kruskal-Wallis tests, used to search for significant differences between groups, reveal that there are no statistically significant differences between the race groups for Question 10 (p=0.053); Question 11 (p=0.100); Question 12 (p=0.869) or Question 13 (p=0.353). There are only

statistically significant differences between the race groups for Question 9 (attitudes towards UKZN's ARV rollout). In this case, p=0.048. The Mann-Whitney U test indicates that for this question the differences lie between Black and Indian students. The Mann-Whitney U tests show that there are no significant differences between the two campuses for any of the variables in this section (p=0.716; p=0.172; p=0.089; p=0.968 and p=0.064 for Questions 9 to 13 respectively).

Other questions (Questions 2 and 15)

Sources of information on antiretrovirals

(Question 2: From which sources have you heard about "antiretrovirals" or "ARVs"?)

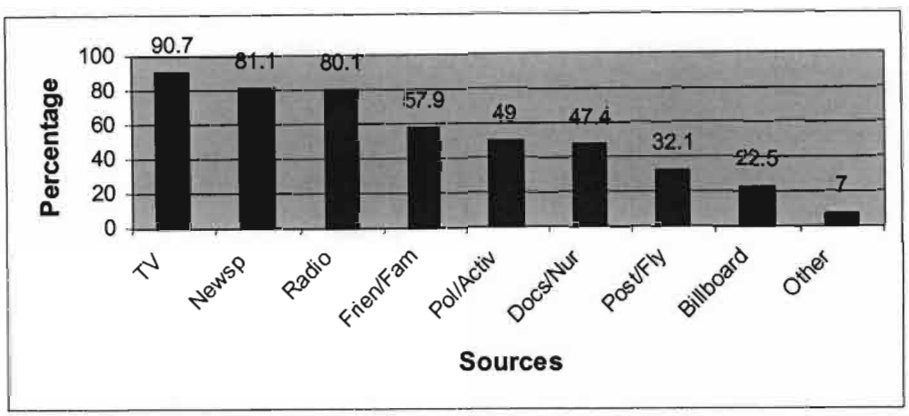
The sample's response to the question was as follows:

- *Television:* 90.7% of all respondents had gained information on ARVs from television, while 7% did not acknowledge it as a source.
- *Radio:* 80.1% of all respondents cited radio as one of the sources of their knowledge on ARVs, while 17.5% did not.
- *Newspapers:* a large proportion of respondents (81.1%) cited newspapers as a source of ARV-related information, while a much smaller proportion (16.6%) did not.
- *Friends/Family:* a little more than half of the sample (57.9%) had heard about ARVs from friends or family, while 39.7% had not.
- *Politicians/Activists:* approximately half of all respondents (49%) had heard about ARVs from politicians or activists, while 48.7% had not.
- *Doctors/Nurses:* 47.4% of the sample had gained ARV-related information from doctors or nurses, while a slightly larger percentage (50.3%) had not.
- *Posters/Flyers on campus:* the majority of respondents (65.6%) had not gained information about ARVs from posters or flyers on campus, while only 32.1% had.
- *Billboards:* only 22.5% of the sample had learnt about ARVs from billboards, while a much larger proportion (75.2%) had not.
- *Other:* only 7% of respondents indicated that another source had provided them with information about ARVs. Examples of other sources mentioned included school, peer

educators (at Howard College campus), university lecturers, HIV/AIDS audio tapes from the University and HIV/AIDS conferences or workshops.

Figure 6.15, below, shows the sources cited by students in the sample:

Figure 6.15: Sources of antiretroviral-related information



Chi-square tests do not indicate statistically significant relationships between the variables TV and race (p=0.460); radio and race (p=0.336); billboards and race (p=0.098); newspapers and race (p=0.140); posters/flyers on campus and race (p=0.365) or "other" and race (p=0.460). However there are significant associations between the variables friends/family and race (p=0.030); politicians/activists and race (p=0.047) and doctors/nurses and race (p=0.000). More Blacks and Whites, and less Indians, than would have been expected had there been no association between the variables mentioned friends/family and politicians/activists as sources of information about ARVs. A significantly larger proportion of Black students, and a smaller proportion of White and Indian students, mentioned doctors/nurses as a source than would have been expected had there been no association between this variable and race.

The tests did not reveal statistically significant relationships between billboards and campus (p=0.332); politicians/activists and campus (p=0.383); newspapers and campus (p=0.203); posters/flyers on campus and campus (p=0.183) or "other" and campus (p=0.663). However, the results do indicate significant associations between the variables TV and campus (p=0.024); friends/family and campus (p=0.047); radio and campus (p=0.001) and doctors/nurses and

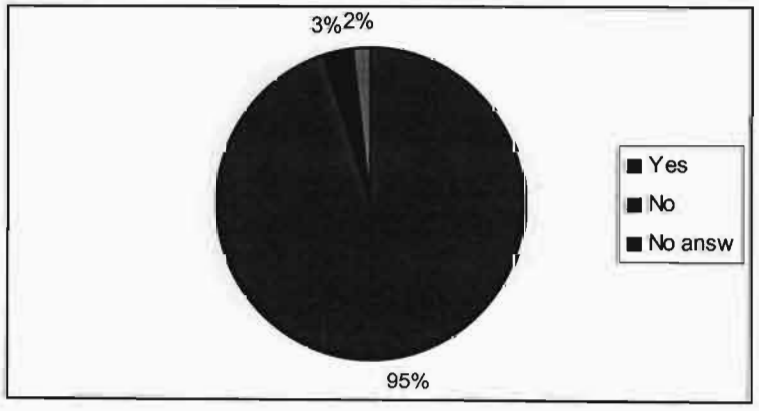
campus (p=0.000). More Westville students, and less Howard College students, than expected had there been no association between the variables cited TV, radio and doctors/nurses as sources of information. A larger proportion of Howard College students and a smaller proportion of Westville students than expected had there been no relationship between the variables mentioned friends/family as a source.

Perceived need for more information on the rollout

(Question 15: Do you think that the university should provide the general student population with more information on the provision of antiretrovirals for the treatment of HIV/AIDS?)

Most students expressed a need for more information on the rollout. 95% of all respondents indicated that they thought that the University should provide the general student population with more information on the provision of ARVs for the treatment of HIV/AIDS. Only 3% did not see the need for more information on the topic. This distribution of frequencies is illustrated in Figure 6.16:

Figure 6.16: Perceived need for more information on the rollout



The statistical tests performed do not indicate a statistically significant relationship between perceived need for more information and race (p=0.141) or perceived need for more information and campus (p=0.846).

Summary of statistical tests

Table 6.1, below, summarises the findings of the statistical tests by indicating the questions for which statistically significant associations between at least one of the dependent variables and race/campus were found:

Table 6.1: Summary of statistical test findings

Question:	Significant association with race?	Significant association with campus?
Knowledge-related questions		
Awareness of ARVs (Q1)	No	No
Awareness of UKZN rollout (Q14)	No	**Yes**
ARV names (Q3)	No	**Yes**
Contexts in which ARVs used (Q4)	**Yes**	**Yes**
Knowledge about ARVs and access (Q8)	No	No
Belief-related questions		
Benefits (Q5)	**Yes**	**Yes**
Disadvantages (Q6)	**Yes**	No
Other options (Q7)	**Yes**	**Yes**
Attitude-related questions		
UKZN's ARV rollout (Q9)	**Yes**	No
People with HIV/AIDS (Q10)	No	No
VCT (Q11)	No	No
ARV treatment (Q12)	No	No
Support (Q13)	No	No
Other questions		
Sources of information (Q7)	**Yes**	**Yes**
Perceived need for more info (Q15)	No	No

Conclusion

This chapter has presented the findings of the primary research in terms of the ARV-related knowledge, beliefs and attitudes of the general student population, as well as the sources from which they have obtained information. The response of the total sample to each question has been detailed, with accompanying graphs where appropriate. Significance tests have been used to indicate any associations between the dependent variables and race or campus. Chapter 7 will discuss these results in a more critical fashion so that sound conclusions about the data can be drawn.

Chapter 7: Discussion of results and conclusions

The overriding objective of this dissertation has been to conduct a needs analysis for the promotion of the antiretroviral rollout at the University of KwaZulu-Natal. The process of determining the needs of a target audience is an early, and vital, step in the development of any social marketing campaign or promotional message. This chapter, then, is an attempt to bring together relevant theory and the findings of the primary research in a meaningful way, so that the promotion needs of students concerning antiretrovirals are made apparent. Thus, the discussion of results has been organised under each of the first two primary research questions. It should be noted that conclusions concerning the third research question (What are the promotion needs of the general student population concerning the topic of antiretrovirals?) can only be drawn after a discussion of results relating to the first two research questions. Thus, this question will not be discussed separately, but rather within the framework of the other two research questions. Within each section, important results are discussed in relation to theory; conclusions are made; and the implications for future promotion campaigns on antiretrovirals are pointed out. Finally, the limitations of the primary research and suggestions for further research on the topic are considered.

Research Question 1: What are the sources and content of the knowledge, attitudes and beliefs of the general student population concerning antiretrovirals?

Knowledge of antiretrovirals

Evaluating a target audience's awareness and knowledge of a particular idea, product or behaviour is an important step in the initial phase of the social marketing planning process. The knowledge and level of awareness of the target audience will influence the objectives of a campaign as well as the messages that are ultimately designed and delivered (see Jha, 1999). Theoretical models of behaviour change, too, regard awareness and knowledge as vital initial steps in the change process. In the diffusion of innovations model, for example, Rogers (1962: 17-18) describes awareness as the first in a series of steps required for the ultimate adoption of an idea or practice by the individual. Similarly, McGuire's communication-persuasion model

sees exposure, attention, liking and comprehension – prerequisites of awareness and knowledge – as initial information-processing steps in the behaviour change process (McGuire, 2001:32).

Awareness and knowledge of antiretrovirals in the South African context is critical. With approximately 400 000 South Africans in immediate need of the drugs (Soul City and Khomanani, 2004:11), the Joint Health and Treasury Task Team (2003:76) has noted the importance of communicating basic information about ARVs to the South African public. Knowledge and comprehension of ART are also fundamental to communication strategies to encourage adherence among individuals on the drugs (Martinson et al, 2002:240). Awareness of ARVs is thus not only essential for those individuals who need treatment, but also for members of the general public who can act as vital channels of information, education and communication (Joint Health and Treasury Task Team, 2003:65). In the context of UKZN, where it is estimated that 16.6% of students are HIV positive (Mitchell, 2004b:2), ensuring a high level of awareness of antiretrovirals and the University rollout is equally imperative.

In the case of the target population for the present project – the general student population at UKZN – the results of the questionnaire indicate that an extremely high proportion (98%) of all respondents were aware of antiretrovirals. It is likely that the politicisation of the HIV/AIDS and antiretroviral issues in South Africa, the lobbying for a national rollout by activist groups like the TAC, and the accompanying media attention has contributed to this high level of awareness. This hypothesis is given weight by the fact that the sample's three most cited sources of antiretroviral-related information were all forms of mass media: TV (90.7%), newspapers (81.1%) and radio (80.1%). Interestingly, the TAC and the ALP (2004:3) have noted that planned media communication about antiretrovirals and the national rollout has been weak in most provinces. Thus, it is probable that the majority of information that students have received through mass media channels was via news coverage of antiretroviral-related issues and not planned promotional messages. Therefore, while increasing awareness of antiretrovirals among students is not likely to be a major goal of future communication campaigns, the content of the knowledge that students have about the drugs should be explored further.

When asked about their knowledge of antiretroviral names, those students who answered the question generally cited AZT (15.2%) and/or Nevirapine (14.2%). This is consistent with the findings of Soul City in their research among the general South African population (Soul City, 2003:7). Both of these drugs have been at the centre of heated national debates: President Mbeki and his Government debated the efficacy and safety of the drugs in preventing mother to child transmission of HIV (see Brink, 2000) and the TAC vigorously lobbied the government to provide ARVs such as AZT and Nevirapine to all pregnant, HIV positive women. Thus, most of the attention given by the media to AZT and Nevirapine has been in the context of the prevention of mother to child transmission of HIV, and not in the context of the treatment of adults with HIV/AIDS. Consistent with the ARV names cited by students, therefore, is the finding that the majority of the student sample had heard of antiretrovirals in the context of preventing mother to child transmission of HIV (79.5%). Also, many students answered later questions in line with their knowledge concerning the use of ARVs for PMTCT, and not for the treatment of HIV/AIDS as required. It can be concluded therefore, that most students had considerable knowledge of antiretrovirals as used for the purposes of PMTCT, due in part to the extensive media coverage surrounding the national provision of these drugs. While it is true that some students at UKZN may require antiretrovirals for this purpose, the fact that ARVs may be used in different ways according to the goals of therapy[33] may necessitate a focus on clarifying these distinctions in future communication campaigns.

What, then, of students' knowledge of antiretrovirals for the treatment of HIV/AIDS? ARVs for this purpose were the second most known context for ARV use (68.9% of the sample), after PMTCT. Furthermore, most students had a good grasp of the facts surrounding treatment with antiretrovirals, as predicted by Michelle Mitchell when she was interviewed (Interview 1, 2004:44). The majority knew that ARVs are not a cure for HIV/AIDS, that they are a lifelong treatment, and that they are not given to just anybody who asks for them. In light of experts' concerns about misconceptions surrounding the drugs and their use in the South African context (see Munusamy, 2003), this is an extremely positive finding. While there may be a potential for

[33] It should be noted that the same antiretroviral drugs may be used for different purposes, but that the length of treatment, dosage and combination with other ARVs will differ depending on the goal of therapy.

confusion due to the different contexts in which ARVs are used, a good understanding of ARVs for the purposes of treatment was evident among much of the sample.

Less encouraging, however, was the awareness of the antiretroviral rollout at UKZN. Only 15.2% of respondents were aware of the rollout, despite the fact that the University has provided access to treatment since 2003. This statistic is compatible with the low proportion of students who cited posters/flyers on campus as a source of antiretroviral-related information (32.1%); the least cited source, bar one. In keeping with the very low awareness of the rollout at UKZN was the high proportion of students who thought that the University should provide the student population with more information on the rollout (95%). There is a clear need for additional information concerning the accessing of treatment at UKZN to be provided to the general student population.

Beliefs concerning antiretrovirals

The health belief model describes the individual's beliefs concerning the *perceived benefits* and *perceived barriers* of treatment as two of six essential factors likely to contribute to the performance of a health behaviour (Rosenstock et al, 1988:177). The model proposes that the perceived benefits of a behaviour must exceed the perceived costs in order for the individual to act (Rosenstock et al, 1988:177). Research in the context of antiretroviral therapy supports the tenets of the model: individuals who believe that ARVs have significant benefits are likely to have higher rates of adherence than those who are unsure of the efficacy of the treatment (Joint Health and Treasury Task Team, 2003:45). A target audience's beliefs concerning the benefits and barriers of a particular health behaviour or treatment are common issues addressed by social marketing campaigns (Lefebvre, 2001:508). As each target audience is likely to have a unique set of beliefs concerning the idea or practice being promoted, these need to be well understood by campaign developers. Promotional messages should include an emphasis on the benefits of a course of action, and should suggest ways in which any negative aspects of the treatment can be minimised (see Lefebvre, 2001).

When asked about their beliefs concerning the benefits of antiretroviral drugs, most students (64.2%) discussed the physiological action of the drugs. Many demonstrated a very good

understanding of the way in which antiretrovirals work in the human body. It is noteworthy that the majority of students (17.9%) also mentioned unpleasant physiological side effects as a major disadvantage of treatment with ARVs. In addition, students expressed their concern over a number of other issues concerning ARVS, including difficulties in accessing the drugs (17.5%); adherence (10.3%); the life-long nature of treatment (9.3%); careless sexual behaviour (4.3%); and the efficacy of the drugs. These issues are congruent with those repeatedly discussed in the antiretroviral literature. The doubts of some students regarding the efficacy of ARVs lends support to Michelle Mitchell's supposition that the reluctance of some students to be placed on ART may be due to a lingering belief that ARVs could be toxic (Interview 1, 2004:111-113). It is evident that before students can be expected to approach campus clinics for treatment, or recommend antiretroviral therapy to friends or family, their negative beliefs concerning ARVs will have to be addressed by promotional campaigns.

The concerns of students regarding access and the efficacy of ARVs are essentially issues that can be tackled with correct information. Promotional messages that advertise the rollout at UKZN and that present a realistic picture of what antiretrovirals can and cannot do are vital, particularly in light of the vast array of misinformation in the South African environment. The remaining issues are complex, but will also need to be dealt with for this target audience. Rogers (1962:124-132) concludes that two of the factors that typically influence whether or not a particular practice is adopted are *complexity* of the practice and *compatibility* with the individual's lifestyle, beliefs and self-image. Promotional messages concerning antiretrovirals will need to emphasise the ways in which the side effects of the drugs can be dealt with; the regimen adhered to and careless sexual behaviour avoided. In line with Rogers' findings, these messages should increase the audience's perceptions of the simplicity and practicability of the antiretroviral regimen, as well as ways in which treatment can be successfully integrated into the individual's current lifestyle.

Students' beliefs concerning other options to treat HIV/AIDS have significant implications for future promotion campaigns on the topic of antiretrovirals. Competition is an essential consideration in both commercial and social marketing; in the case of the latter, competition refers to the activities preferred by the target market over those being promoted (Kotler et al,

2002:10). Rogers (1962:124-132) suggests that the relative advantage of the product being promoted over other available options determines whether or not it is adopted by members of the target audience. Once the competition has been identified, the way in which the social product should be positioned for the target audience can be established.

Current mainstream literature concludes that there *is* no competition for antiretrovirals in the final stages of HIV/AIDS; ARVs are the only effective means of restoring/maintaining immune function in HIV positive individuals for significant periods of time (see Southern African HIV Clinicians Society, 2002). However, experts do suggest a range of complementary therapies that can be adopted to maintain the health of the immune system and ward off opportunistic infections for as long as possible. These recommendations include nutritious eating, exercise, a positive mental attitude and the avoidance of cigarettes and alcohol (Soul City and Khomanani, 2004:31-32). The majority of students surveyed expressed beliefs that correspond with the literature: 29.1% stated that they knew of no other options to treat HIV/AIDS with many then going on to describe the complementary practices recommended by experts. Students discussed the benefits of healthy eating and taking vitamins (19.2%); exercise (10.9%); a positive mental attitude; and avoiding cigarettes and alcohol. It is encouraging that not a single student mentioned any of Health Minister Tshabalala-Msimang's controversial and much publicised remedies; that is garlic, onions, olive oil and the African potato – all of which have been found to do more harm than good (see Evian, 2003; Sapa, 2003).

The use of traditional/African healers was mentioned by some students (4%) – most of whom were Black students from the Westville campus – as an option to treat HIV/AIDS. This low proportion is in contrast to Government's findings that up to 97% of HIV positive people first use traditional or complementary medicines in an attempt to treat the disease (Republic of South Africa, 2003b: 87). The handful of students who mentioned traditional medicines, as compared to the many who discussed mainstream recommendations, suggests that this population is somewhat different to that described by the Government's research. It is probable that as the majority of students surveyed came from urban backgrounds (80.5%), and are being educated at a Westernised university, they are more likely to subscribe to "scientific" thought on the causes and treatment of diseases than to more traditional ways of thinking. While there is no doubt that

some traditional remedies can be helpful in strengthening the immune system, others may be harmful to the health of an HIV positive individual (Soul City and Khomanani, 2004:32). Thus, the issue of traditional medicine may need to be specifically addressed among this sub-section of the general student population.

In general, then, it can be concluded that those students who answered the question on other options to treat HIV/AIDS had a very good understanding of the complementary practices that should be used by HIV positive people, as well as those taking antiretrovirals, to maintain the health of their immune systems. Most also knew that there is no substitute for antiretrovirals in the treatment of the final stages of HIV/AIDS. Very few students mentioned practices that could be dangerous to the health of HIV positive individuals. For this group, then, future promotional messages simply need to reinforce and reiterate their current beliefs concerning other options to treat HIV/AIDS. This would include the relative advantage of antiretrovirals over any other treatments available. However, 32.5% of students did not answer this question. While some of these students may simply have been too lazy to do so, others may be unaware of those practices recommended for HIV positive individuals. Messages, therefore, directed at the general student population, may need to bring these practices to the attention of those individuals who are currently unaware of them.

Attitudes concerning antiretrovirals

Social marketing practitioners generally regard the development of positive attitudes towards a particular idea, product or behaviour as a primary objective of any promotional campaign (Jha, 1999:59). In the diffusion of innovations model, the second and third stages in the adoption process are interest and evaluation of the product at hand; stages that implicitly involve the formation of a positive or negative attitude towards the product (Rogers, 1962:17-18). McGuire's communication-persuasion model, too, sees attitude change as an essential pre-requisite to behavioural change (McGuire, 2001:32).

The majority of students (73.2%) expressed a positive attitude towards the rollout of antiretrovirals at UKZN. It has been stated elsewhere that stimulating demand for campus health services such as VCT and ART may well be necessary. To this end, general goodwill towards the

rollout is an excellent starting point for future campaigns on the issue. It should be noted, however, that a few students took the time to write additional comments on their questionnaires next to this question; all stated that they agreed that the University should supply ARVs to students and staff with HIV/AIDS *but* only if every student's fees were not increased[34]. These comments should not be taken lightly, and it may well be necessary for future promotional messages to explain to students exactly where their money is going for the rollout, and why.

The high levels of stigma and discrimination directed towards individuals with HIV/AIDS in South Africa has been noted by a number of authors (see Caldwell, 2000; Soul City and Khomanani, 2004; UNAIDS, 2003). Mitchell (2004b:3) concluded that the low uptake of VCT at the campus health clinics was at least partially due to a fear of stigma and discrimination. Consequently, many of the campus HIV/AIDS campaigns have focused on the issues of stigma and discrimination against HIV positive students; including the "Access HIV Treatment – A Stigma Free UKZN" and the "Unmask AIDS" campaign, both in 2004 (Mitchell, 2004a:5-6). It is remarkable, then, that 91.7% of the students surveyed strongly disagreed or disagreed with the statement "Most students with HIV/AIDS have sinned and do not deserve treatment". Obtaining accurate representations of attitudes of stigma and discrimination through questionnaires is notoriously difficult, and thus it seems likely that this statistic should be treated with a certain amount of caution. As a part of broader South African society, it is possible that there are still high levels of stigma and discrimination directed against individuals with HIV/AIDS in the University context. These attitudes will need to continue to be addressed by promotional messages and campaigns.

Most students surveyed (91.4%) agreed that they would advise a friend who thought they might have HIV/AIDS to go for voluntary counselling and testing (VCT). In addition, a high proportion (84.4%) of respondents agreed that they would advise a friend who was sick with AIDS to get antiretroviral treatment. These positive attitudes towards recommending VCT and ART to others, and the positive attitudes towards VCT and ART that are implicit, are promising. The diffusion of innovations model – among others – recognises the importance of social influence in

[34] As noted previously, each student at UKZN has a proportion of his/her fees deducted as a contribution to the AIDS Treatment Fund. In 2004, this amounted to a contribution of R30 per student per year.

changing an individual's attitudes or behaviour (Andreasen, 1995:157-158). The Joint Health and Treasury Task Team (2003:65) have pointed out the role that community networks and social mobilisation can play in informing, educating and communicating antiretroviral-related information to those who need it. Michelle Mitchell, too, has noted the need for correct information and knowledge to be spread among the student population through word of mouth sources or "social networking" (Interview 1, 2004:53-54). Thus, students who have a positive attitude towards VCT and ART can serve as powerful referral nodes, and important sources of information, for other students who may need to make use of these health services. These positive attitudes should continue to be reinforced through communication campaigns.

An overwhelming majority of students indicated that they would be prepared to offer support to someone on antiretrovirals (91.4%). This is an optimistic finding, considering the vital role that social support plays in encouraging adherence to ART (see Evian, 2003). Soul City and Khomanani (2004:42) even recommend the use of a "treatment buddy" who can offer practical and emotional support to individuals on ART. Similarly, students who receive their treatment through McCords Hospital are obliged to appoint a "treatment buddy" to whom they can disclose their status and who can offer them support (Interview 1, 2004:61-63). Thus, this result gives credence to the "treatment buddy" strategy, as it indicates that many students would be prepared to play such a role. Future promotional messages on the topic need to maintain these positive attitudes expressed by students, and may need to pay attention to educating the general student population about the ways in which they can offer friends on ART practical and emotional support.

Sources of information on antiretrovirals

Selecting the appropriate channels of communication for a particular target audience is a vital component in developing a successful promotion campaign (Salmon et al, 1996:136). An examination of the media habits of the target audience is essential in order to make such a choice.

In the general sample, the top three cited sources of ARV-related information were all forms of mass media: TV (90.7%), radio (80.1%) and newspapers (81.1%). As discussed previously, an

analysis of the results suggests that the mass media have played an important role in increasing the awareness and general knowledge of students regarding antiretrovirals. However, such channels can clearly not be used by the University, due to their high cost and untargeted nature. Small media, such as posters and flyers, on campus were poorly attended to by the sample, with only 32.1% of respondents citing this medium as a source of ARV-related information. Furthermore, the very low awareness of the ARV rollout among students suggests that posters and flyers are not reaching their intended audience in an effective manner. Posters and flyers, and other types of small media, are relatively cheap and potentially effective ways of communicating with a geographically concentrated target audience. However, they need to be better utilised by the University as a means of communicating with the student population.

Rogers (1962:99) suggests that impersonal information sources (such as mass and small media) are most important at the awareness stage of the adoption process, with personal sources more important at the evaluation and trial stages. Personal sources are also seen as more likely to influence behaviour change than mass communications (Rogers, 1962:100). Personal sources were well attended to by the sample, with 57.9% of students receiving antiretroviral-related information from friends or family and 47.4% of students receiving such information from doctors or nurses. It appears that these two sources could be utilised for the purposes of future communication campaigns, particularly for achieving the objectives of deeper attitude and behaviour change. The role that students in the general student population can play as conduits of knowledge and information has been discussed in detail elsewhere. Peer educators, who are trained by the University, are an extension of this concept and could serve as "opinion leaders" (see Rogers, 1962) in changing the attitudes and behaviour of students. Doctors and nurses, and particularly nurses at the campus clinics, already act as important sources of practical and emotional support for students on ART (Interview 1, 2004:84-88). Their brief should continue to include providing information and advice on the topic of antiretrovirals to students with whom they come into contact and who could benefit from such information.

Research Question 2: Are there significant differences in the knowledge, attitudes and beliefs of sub-groups within the general student population that may justify audience segmentation when delivering messages?

Segmentation of markets is a central tenet of the social marketing paradigm. Market segmentation and targeting has a number of advantages over undifferentiated or mass marketing; specifically it allows a particular set of marketing strategies and tactics to be developed in order to meet the unique needs of a certain group (Andreasen, 1995:177). Strictly speaking, segmentation is not currently used by the University in their campaigns or messages, although different campaigns may be organised for different campuses and campus-specific brochures on the topic of antiretrovirals have been developed (see Mitchell, 2004a). Segmentation on the basis of demographic variables such as race and geographic location is probably the most common technique used by social marketers (Slater, 1995:188). My own, earlier work concerning the influence of the loveLife AIDS awareness campaign on students at the Pietermaritzburg campus of UKZN concluded that segmentation on the basis of race was indicated among this group (see Morrison, 2003). What, then, of the segmentation possibilities among the student population surveyed for the purposes of the current research?

The results of the questionnaire did not reveal an overwhelmingly clear pattern as to the differences between students from different campuses or races; however statistical tests did confirm that there are associations between campus and/or race and the dependent variables in a number of cases. These associations have been detailed in the previous chapter, and will not be repeated here. Rather, an attempt will be made to interpret and analyse the important findings in the paragraphs that follow.

In general, there were very few remarkable differences between the campuses in their knowledge, attitudes or beliefs concerning antiretrovirals, or the sources from which they had obtained information. The most noteworthy finding is that a statistically significant association was found between campus and awareness of the University rollout, indicating that Westville students had a significantly lower awareness of the rollout than those from Howard College. Also, there are significant associations between campus and some of the sources of ARV-related

information. Westville students paid more attention to TV, radio and doctors/nurses as sources of information than Howard College students, while the latter saw friends and family as a more important source than their Westville counterparts.

These findings suggest that segmentation on the basis of campus, for all campaigns and messages, is not indicated. However, a great deal more attention must be paid to promoting the ARV rollout among Westville students. In addition, it may be necessary to utilise the personal sources of doctors/nurses and friends/family in different ways on the two campuses. As doctors and nurses are particularly important sources to Westville students, it should be ensured that the medical staff at the campus clinic have the necessary resources to act as conduits of ARV-related information. On the Howard College campus, the role of "friends" (in the form of peer educators or other students) in communicating ARV-related information and promoting the rollout should be emphasised. This is not to say that both of these personal sources should not be made use of on the two campuses, but rather that they may need to be prioritised in a slightly different way for each campus.

In a number of instances, pertinent statistical associations between race and the dependent variable were found. For each of the questions concerning the beliefs of students, significant associations were found between campus and every one of the dependent variables in each case. However, there were no clear patterns in terms of the differences between the races. Black and White students showed a greater tendency towards describing the biological benefits of ARVs than Indian students; and were less likely to describe the social benefits or give an "other" or incorrect answer to the question than Indian students. For the question concerning the disadvantages of ARVs, Black students differed from White and Indian students in some cases; in others Blacks and Whites differed from Indians; and in still others White students differed from Black and Indian students. Regarding other options to treat HIV/AIDS, Black students differed from White and Indian students in the pattern of their responses. Black and Indian students differed in their attitudes toward the ARV rollout at UKZN, with significantly more Black than Indian students expressing a positive attitude towards the rollout. These findings indicate that in many instances, students from different races did differ on ARV-related variables; particularly in the areas of beliefs and attitudes. Notably, while different groupings of

races are evident for various variables, Black and Indian students differ from each other in almost every case.

Thus, general segmentation on the basis of race is not indicated across the board, for all campaigns and messages. However, the different beliefs and attitudes of different races may require segmentation and targeting on the basis of race when messages or campaigns related to these particular topics are designed. This segmentation is likely to be particularly valuable on the Westville campus, where the overwhelming majority of students are still Black and Indian. Thus, the consistent differences between these race groups can justifiably be used for the purposes of segmentation. On the Howard College campus, segmentation on the basis of race needs to be used only in those cases where the needs of different race groups do not overlap.

Slater (1995:187) notes that members of a segment should be able to be reached through similar media or interpersonal channels. The three most cited sources by students from all races were, in order: TV, newspapers and radio. However, a significantly larger proportion of Black and White students cited friends/family and politicians/activists as sources than Indian students and more Blacks than Whites or Indians mentioned doctors/nurses as a source. These findings indicate that should segmentation on the basis of race occur, Black and White students may respond better to information imparted by fellow students and politicians or activists (who could be invited to give presentations or lectures at UKZN) than Indians. Also, doctors and nurses from the campus clinics may be utilised as channels of information for Black students particularly.

While segmentation is a powerful tool in ensuring that the promotion needs of particular target audiences are met, it is not always a simple technique to execute. The discussion above indicates that there is some basis for segmentation of the general student population by race and/or campus – but only for some antiretroviral-related issues. It appears that the use of a combination of segmenting variables – campus and race – is likely to achieve the most effective and efficient communication results. In addition, other bases for segmentation of the general student population may need to be investigated in the future.

Limitations of the research

This section will briefly discuss the limitations of the research in terms of the sample and questionnaire design. Limitations in terms of time and space have necessitated a relatively brief investigation into the promotion needs of students on the topic of the antiretroviral rollout at UKZN. Thus, suggestions for ways in which the research design could be improved, and taken further, have also been given.

Sample limitations

The sample used for the questionnaire phase of the research represents a very small proportion of UKZN students[35]. The small sample size means that the results should be treated with due caution when generalising to the larger student population.

As a probability sampling method could not be utilised, the sample composition was not particularly representative of the student population for those variables that were not controlled by the research design. Disparities in the availability of classes to be surveyed among the different faculties resulted in an overwhelming proportion of respondents from the Commerce and Management/Management Studies and Humanities/Human Sciences Faculties. In addition, the majority of students surveyed were female; most probably owing to the faculties from which students were sourced.

As only one White student from the Westville campus was surveyed, it was not feasible to conduct statistical tests to look for associations between the dependent variables and race *within each campus.* This could very well have yielded some interesting and informative results.

Questionnaire design limitations

A major limitation of the questionnaire design in general is the reliance on the self-reporting of respondents, particularly with regard to sensitive topics such as HIV/AIDS. The answers given, especially to the questions concerning the beliefs and attitudes of respondents, may well have

[35] This is just less than 1% of the combined student populations of the Howard College and Westville campuses in 2004. Available: http://www.ukzn.ac.za/dmi/ukznstats/students_cam.asp

reflected what they perceived to be correct or socially acceptable answers, rather than strictly accurate responses.

Questions 5 and 6, which required respondents to discuss their beliefs about the advantages and disadvantages of ARVs respectively, were misinterpreted by an unusually high proportion of students. These students did not understand that these questions only applied to "antiretroviral drugs to treat HIV/AIDS". This distinction should have been emphasised to a greater extent, or the questions re-worded so as to have been clearer to students.

A high proportion of questions were not answered by a large number of students, particularly those that required written answers. This may have been because students could not think of an answer to the question, or more likely, that they did not want to take the time and energy required in answering the question. This "questionnaire fatigue" on the part of students is not uncommon and is difficult to overcome.

Suggestions for further research

Extensions of the current research could consider the following suggestions in order to expand and improve the study:

1) A comparison between students on all five of the University's campuses, instead of just two, would increase the value of the results.

2) A larger sample size, as discussed above, would be greatly advantageous in increasing the generalisability of the research and would allow a wider range of statistical tests to be performed on the data. In addition, a greater effort to control demographic variables so as to obtain a more representative sample would increase the generalisability of the results.

3) Further research could also focus on the other "P's" of the marketing mix, and in addition could go on to develop an entire strategic social marketing programme for antiretrovirals at the institutional or national level.

Conclusion

An earlier discussion, in Chapter 3 of the literature review, proposed five key issues that would need to be addressed by any antiretroviral-related communications programme. These were: communicating basic information; correcting misconceptions; encouraging adherence; encouraging social mobilisation; and stimulating demand. The critical discussion presented in this penultimate chapter has come to remarkably similar conclusions. Future promotional messages and campaigns directed at the general student population will need to focus on the following issues: clarifying the distinctions between different contexts of ARV use; increasing the awareness of the rollout at UKZN as a prerequisite to stimulating demand; addressing negative beliefs and misconceptions regarding ARVs; emphasising complementary practices to be used by individuals with HIV/AIDS; addressing issues of stigma and discrimination; and encouraging students to act as sources of support and information for other students. In addition, small media and personal sources need to be utilised more effectively by the University. In the case of certain messages, segmentation – on the basis of race and campus – may result in a more effective dissemination of information to the target audiences. Limitations of the research conducted for the purposes of this dissertation have also been briefly discussed in this chapter, with suggestions for further research being outlined. The final chapter will summarise the arguments of this dissertation and will draw the discussion to a close.

Chapter 8: Conclusion

In the complex environment of modern life, educational institutions no longer have the luxury of separating themselves from the concerns and problems of the societies in which they are located. The University of KwaZulu-Natal is no exception to the rule; as a part of South African society, its students and staff have not remained unaffected by the HIV/AIDS epidemic that has had such a devastating impact on the country. It is for this reason that the institution announced in 2004 that it would provide access to antiretroviral drugs for the treatment of HIV/AIDS to all students and staff members who require it.

However, in order for this rollout to be successful, a number of concerns have to be urgently recognised and addressed through promotional messages and campaigns, including: the politicisation of the antiretroviral issue in South Africa, the rumours and myths on the topic that abound among the general population, the complicated nature of antiretroviral therapy and the necessity of social support for those on the drug regimen. Thus, the empirical component of this dissertation has consisted of a needs analysis for the promotion of the antiretroviral rollout at UKZN. The major objectives of the research were to understand the knowledge, attitudes and beliefs of the general student population, the sources to which they attend, and any differences between sub-groups within this population, so that the antiretroviral-related needs of students that can be addressed by future promotional campaigns could be identified.

As a background to the primary research, a literature review was undertaken. HIV/AIDS in the South African context was critically discussed in order to show the necessity of a national provision of antiretroviral drugs to ameliorate at least some of the impact of the epidemic. The topic of antiretrovirals was discussed in some detail, so that the complexity of a national rollout and subsequent promotion campaigns on the topic could be explored. The final chapter of the literature review examined the social marketing paradigm – a set of tools and techniques that can be utilised to effect social change. Social marketing has informed the assumptions, research design and research questions of the present project. In addition, it has been argued that this approach is capable of effecting the kinds of changes in individual knowledge, attitudes and beliefs that will be needed for successful national and institutional rollouts.

After the methodology of the primary research was described, the results of the questionnaire distributed to a sample of students from the Westville and Howard College campuses of UKZN were presented. Subsequently, these findings were interpreted in the light of the literature reviewed. It was concluded, finally, that future promotional campaigns on the topic of antiretrovirals at UKZN will need to do the following: clarify the distinctions between different contexts of ARV use; increase awareness of the rollout at UKZN as a prerequisite to stimulating demand; address negative beliefs and misconceptions regarding ARVs; emphasise complementary practices to be used by individuals with HIV/AIDS; address issues of stigma and discrimination and encourage students to act as sources of support and information for other students. In addition, small media and personal sources need to be utilised more effectively by the University. In the case of certain messages, segmentation – on the basis of race and campus – may result in a more effective dissemination of information to the target audiences.

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Appendix A: Types of research by campaign phase

Phase	*Research necessary*	*Explanation*
Pre-campaign:	**strategic planning research**	Research used in the initial design of campaigns or messages to identify potential problems, target audiences, campaign ideas, and possible media channels or message vehicles.
	needs assessments	Research to collect information on what is needed (such as social support, skills, money or information) to solve the defined problems of a target audience/s.
Campaign/message development:	**target audience analysis**	Research used to select, segment, and/or describe the target audience/s that the campaign aims to address.
	formative evaluation	Research undertaken to compare alternative campaign strategies/messages and/or improve a specific strategy. Includes idea generation, concept testing, positioning, copy/ message testing, and test market research.
	message efficacy/response research	Research to determine if a campaign, messages, and/or produced materials are likely to have the desired impact.
Post-campaign:	**process evaluation**	Research to ascertain when, to whom, where and, how often, campaign materials are being disseminated.
	outcome/effectiveness evaluation	Research to determine the effects of a campaign/campaign materials, and to compare this to previously set objectives.
Ongoing:	**exploratory research**	Research to investigate issues as they arise.

Source: adapted from Nowak and Siska (1995:172).

Appendix B: Interview with Michelle Mitchell,

AIDS Programme Co-ordinator[1]

Conducted: 6 October 2004, 2pm, Howard College Campus, Durban

Q1: What forms of communication are used to reach students on the topic of antiretrovirals?

Michelle explains that it is mostly external media that are used to communicate information about the University's ARV programme. There have been articles concerning the topic in newspapers such as the *Sunday Times* and *The Mercury*; in magazines like *Fair Lady* and *Drum*; on websites like eHealth; and interviews have been conducted and aired on SAFM and on SABC 1 and 3. This use of the mass media is, she feels, very important to get the attention and buy-in of the top executives of the University, as well as to gain the attention of students. On the campuses themselves, tools that have been used to disseminate information about the rollout include the use of peer educators, campaigns like the Hope and Healing Campaign and talks arranged by HIVAN[2] and the campus health clinics and often given by people with HIV/AIDS (the use of the latter serves also as an attempt to decrease stigma and discrimination against people living with HIV/AIDS). Flyers, posters and information on UKZN's innerweb provide students, staff and other interested parties with information about the AIDS Programme. The Orientation Programme at the beginning of each year for first year students contains a large HIV/AIDS component. Michelle says that they rely on these sources of information to gain the attention of the students, and make them aware that cheap antiretrovirals and treatment are available, and it is then the responsibility of the student to find out more information from the health clinics or other sources.

[1] Michelle Mitchell has reviewed this transcript and has approved it as an accurate representation of the conversation.

[2] HIVAN is the Centre for HIV/AIDS Networking and is located on the Howard College campus of UKZN.

18.A recent Hope and Healing Campaign was held across the campuses of UKZN, in order to 19.encourage a more positive attitude about the disease among students. Michelle says that 20.students are tired of talks, as they have to attend lectures all the time, and so need to be 21.engaged by something different. The campaign allowed the students to interact with various 22.events for just ten minutes at a time; between lectures for example. One such event was a Wall 23.of Courage where students who knew their HIV status could have their picture taken and have 24.it displayed on the wall. However, Michelle notes that a campaign such as this has few visible 25.indicators of success, and so is difficult to evaluate.

26.Michelle also explains that they have started educating staff about the options available for 27.HIV positive students. Staff are the often the first to know a student's HIV status, as they may 28.be confided in after the student has missed lectures or tests or is falling behind in coursework 29.as a result of poor health. She says that staff can thus act as important referral nodes by 30.advising the students of where they can go for help. While many staff a few years ago were 31.reluctant to get involved with the issue of HIV/AIDS, saying that their job was to lecture the 32.students only, now that some staff have had students die of AIDS, they are more willing to get 33.involved. Staff members now want to be empowered in this arena and be given the necessary 34.skills and resources to deal with students who are HIV positive.

35.Michelle says that she sees the Government rollout of ARVs and the media attention around 36.that, as having created a window of opportunity to gain people's attention again about the 37.issue of HIV/AIDS, and encourage them to read and find out more about the topic of ARVs 38.and other HIV/AIDS related topics. It is an interesting issue, so it serves to create renewed 39.concern around the general topic.

Q2: Are communication strategies on this topic different on the five campuses? Why/why not?

40.The basic communication strategy in terms of ARVs is the same for each campus, with the 41.exception of Westville. Michelle explains that although they started to put students on ARVs

as early as May of last year, they didn't advertise the service on the Westville campus as they only recently appointed a nurse who is responsible for handling HIV positive students.

Q3: Do you think that students in general have adequate knowledge about ARVs? For example, do they understand that ARVs are not a cure for AIDS and that the medicine regimen is complex and must be strictly adhered to?

Michelle believes that, in general, students have good knowledge about HIV/AIDS and ARVs, but still may subscribe to certain myths about the disease and its treatment, and thus may be confused. She believes that this awareness about ARVs is due, at least in part, to the media hype in South Africa about treatment for HIV/AIDS. She says that students tend to have a reactive knowledge; that is they only want to know the information after the fact – for example where to go and what to do when they find out they are HIV positive – and are not particularly interested in prevention information.

Michelle says that the focus of communication messages about treatment for HIV/AIDS should be holistic in nature. She feels that it is important to focus not just on ARVs, but rather on all the components of "wellness management". There is a need to spread correct information and knowledge through word of mouth sources or "social networking". One way to do this is to use peer educators, who are respected by other students and act as opinion leaders, as well as health promoters. Health promoters are people living openly with HIV/AIDS, who can give lectures and workshops to students. Michelle feels that there is a need to normalise HIV/AIDS. Unfortunately, by having an "AIDS Programme", she feels that this marginalises those with the disease and makes them different. She feels that it is very important to normalise HIV/AIDS; at least within the university context.

Q4: What role do you see other students (not necessarily HIV positive) playing in encouraging and supporting students on ARVs?

Michelle explains that students who are attached to the treatment programme at McCords are obliged to have a "treatment buddy" to whom they disclose their status and who can offer them support. This buddy may or may not be a fellow student. Staff involved in the AIDS

Programme initially thought that peer educators, trained by the University, could act as treatment buddies. However, students didn't want their treatment buddy to be someone they didn't know; rather they wanted to choose someone who they knew and trusted. The staff also thought of offering students on ARVs assistance with other issues (such as transport to the treatment venues), but in general, students were reluctant to accept offers of help. Michelle believes that this is part of the empowerment process; students don't want to be pushed into the victim role, but rather want to have some agency in this matter.

Q5: Does the University have any role in encouraging adherence among students on ARVS (eg: through support groups, mentors)?

Michelle explains that different campuses have different kinds of support groups for students infected and affected by HIV. The Howard College Campus has a support group for students affected by, although not necessarily infected with, HIV/AIDS. The group is organised by the Student Counselling Centre, but hasn't really got off the ground. In Pietermaritzburg, the support group on campus is good; with six students meeting regularly to support and encourage each other. At the Edgewood Campus, the SRC president has started a very successful, informal support group. Michelle feels that this model of support, where the group is organised by a role model and University leader, is probably the most successful, as it helps to normalise the disease, rather than making people who have it feel marginalised. Michelle believes that the staff of the Programme can then facilitate the process by offering the SRC President assistance and relevant skills when necessary, while allowing her to lead the process.

Michelle says that adherence to the ARV regime is complicated as you have to take at least three pills twice a day. However, she says that the nurses at the campus clinics are trained in adherence assistance and thus try to help the students to develop tricks and ways of remembering to take their medication (for example putting their pills under their pillow so that they remember to take them at night before going to sleep). Students tend to develop close relationships with the nurses and use them as a form of support.

On the topic of adherence, Michelle notes that in Pietermaritzburg, the treatment of students who need ARVs is handled by a private GP. Although this doctor does not insist on disclosure for his patients, their adherence rate is, in general, higher than those students on the programme at McCords. Michelle believes that this is because the students form a personal relationship with the doctor, and feel that they are accountable to him for their adherence to the medication, and thus don't want to disappoint him.

Q6: Do you find any students resisting the use of ARVs even when they are in need of the drugs?

Michelle says that some students, who have needed ARV treatment and have been advised of this, have refused treatment. In Durban, for example, up to June of this year, fifteen students were referred to McCords Hospital for ARV treatment. Two students died, due to extremely low CD4 counts, one never arrived for his/her appointment and one refused treatment. She doubts that lack of funds could be the reason for this, as the University subsidises the treatment, with students being asked to contribute R50 a month towards the cost. However, students who are not able to pay this fee are aided by the University. Michelle says that many students, when told they have AIDS, go into a state of crisis, with their first instinct being to deny the whole situation. Thus, many refuse to go for counselling to manage their illness. Some have the feeling that agreeing to go on antiretrovirals is an acknowledgement that you have AIDS and are going to die. Many are also worried about the reactions of their families and friends when they discover they are on the drugs; friends and family may see the student taking the pills and start to ask questions. Thus, many are afraid to disclose. Another reason for refusing to take ARVs, according to Michelle, could be traditional and cultural beliefs. Some students may believe that HIV/AIDS is a curse that has been placed on them and thus they would rather seek the help of a traditional healer to deal with the disease, not a medical doctor. And finally, the rumours and myths that abound in the South African context, suggesting that ARVs are toxic, may contribute to the reluctance of some students to be placed on the medication.

Q7: What about when students leave UKZN? Does the University continue to play any role in providing ARVs or encouraging maintenance of the treatment and adherence?

Michelle says that once the students leave university, they shouldn't have a problem accessing the drugs. McCords will soon be offering free treatment, so students who are presently receiving treatment there can simply move on to that programme. In Pietermaritzburg, the students will be linked to Grays Hospital when they leave university and can receive their medication there. Michelle says that the problem comes in when students leave the area in which they studied. Hopefully, though, as the Government's programme becomes more established, the students can move onto other programmes in an area that is convenient to them. Adherence to the treatment is then encouraged by the service provider only, and the University no longer plays a role.

Q8: Is UKZN's ARV rollout in any way related to that of the National Government?

The rollout of ARVs by the University is not linked in any way to that of the National Government (they did not have to obtain permission from the Government to roll out). However, the medication with which the students are treated, and the guidelines for the treatment, are the same as those used by the Government. This ensures that, once they leave UKZN, students can move onto Government programmes easily. For example, students are put on ARVs once their CD4 count is lower than 200, as occurs in the Government programme.

Additional information given by Michelle

- About 16.6% of students are estimated to be HIV positive at UKZN. Michelle explains that this estimate was based on modelling (using, in part, figures from antenatal surveys, to arrive at this percentage). She believes that this figure is accurate as it corresponds with the percentage of students who are HIV positive when they receive VCT at campus clinics.

- A recent survey showed that 30% of first-year students knew their HIV status before coming to University, although half of these knew their HIV status because they had never had sex.

- 138.Michelle says that the logistics of handling an ARV rollout at UKZN are complicated
139.and difficult. However, the staff involved in the AIDS Programme felt that it was necessary
140.to roll out as soon as possible, and iron out the kinks on the way, rather than wait until things
141.were perfectly organised and deny treatment to those students who needed it.

Appendix C: Questionnaire

Questionnaire: Antiretrovirals

This questionnaire forms part of a study that concerns the antiretroviral rollout at UKZN. The study is being conducted by the researcher for a Masters degree. It would be appreciated if you would take a few minutes to fill in the questionnaire. Please note the following:

- The questionnaire is **voluntary**. If you would rather not take part in the research, please return the questionnaire to the researcher.
- The questionnaire is **anonymous**. Please do not write your name on the questionnaire.

1) Have you ever heard of "antiretrovirals" or "ARVs"? ***Please tick:***

YES	NO

IF NO, YOU ARE NOT REQUIRED TO ANSWER ANY OF THE REMAINING QUESTIONS.

2) From which sources have you heard about "antiretrovirals" or "ARVs"? ***Please tick as many as apply:***

Television	
Friends/Family	
Radio	
Billboards	
Politicians/Activists	
Doctors/Nurses	
Newspapers	
Posters/flyers on campus	
Other (please specify)	

3) If you know the names of any antiretrovirals, please write them here (don't worry about spelling):

4) In which context have you heard of antiretrovirals? ***Please tick as many as apply:***

As a precaution after a needlestick injury	
As a precaution after rape	
To prevent mother-to-child transmission of HIV	
To treat adults and children with HIV/AIDS	
Other (please specify):	

5) What do you think are the main benefits of antiretroviral drugs when used to treat HIV/AIDS?

6) What do you think are the main disadvantages of antiretroviral drugs when used to treat HIV/AIDS?

7) What other options do you know of to treat HIV/AIDS?

8) When used as a treatment for HIV/AIDS, antiretrovirals are…***Please tick:***

a) a cure for HIV/AIDS	TRUE	FALSE
b) taken for the rest of a person's life	TRUE	FALSE
c) given to anybody who asks for them	TRUE	FALSE

Please tick your response to the following statements:

9) The university should supply cheap antiretrovirals to students and staff with HIV/AIDS.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

10) Most people with HIV/AIDS have sinned and do not deserve treatment.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

11) If I had a friend who thought they might be infected with HIV/AIDS, I would advise them to go for voluntary counselling and testing (VCT).

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

12) If I knew someone who was sick with AIDS, I would advise them to get antiretroviral treatment.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

13) If I knew someone on antiretrovirals for the treatment of HIV/AIDS, I would be prepared to offer them support (for example by reminding them to take their medication).

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

14) Are you aware that the university provides access to cheap antiretroviral treatment for students and staff with HIV/AIDS? ***Please tick:***

YES	NO

15) Do you think that the university should provide the general student population with more information on the provision of antiretrovirals for the treatment of HIV/AIDS? ***Please tick:***

YES	NO

16) In order to statistically analyse this questionnaire I require some demographic information from you.

Please complete the following:

Campus _____

Faculty _____

Sex _____

Race _____

Do you come from an urban or rural background? _____

THANK YOU FOR YOUR TIME!

Appendix D: Questionnaire design

The questionnaire consisted of a number of questions, each of which is described and justified below:

Informed consent: on the first page of the questionnaire, before the presentation of the questions, respondents were informed of its basic purpose as well as the voluntary and anonymous nature of the questionnaire. This is in accordance with the ethical guidelines of the University of KwaZulu-Natal and with the suggestions of Professor Johan Jacobs (Head of the School of Graduate Studies, Faculty of Human Sciences in 2004) to whom the questionnaire was submitted for ethical approval.

Question 1: this was a structured, dichotomous question with a structured yes/no answer. It was designed to assess respondents' awareness of antiretrovirals. The question also acted as a filter as those respondents who answered "no" to the question would not have been able to answer the remaining questions and thus, were informed that they were not required to answer the rest of the questionnaire. After the questionnaires had been printed, it was realised that in order to analyse the data effectively, it was necessary to have the demographic details of all of the respondents (question 16) – even those who had answered "no" to this question. Thus, this request was made verbally to all respondents before handing out the questionnaire.

Question 2: this question was a structured, multiple-choice question with multiple answers, designed to ascertain the sources from which respondents had obtained information about antiretrovirals. There were nine possible answers; three of which were personal sources from which respondents may have obtained information, and five of which were types of media. An "other" option was also included in order to identify alternative sources of information. The data likely to be obtained from this question was considered useful both in order to identify future channels of communication for this audience and in order to gain an idea of which types of information about ARVs, with which types of biases, respondents had access to.

Question 3: this structured question requiring an unstructured response was another awareness question; this time assessing respondents' top-of-mind awareness of brand names of antiretrovirals. This question was adapted from one used by Soul City (2003:18) in their audience research among the general public. It was expected that most respondents who answered this question would mention AZT and/or Nevirapine, as these two antiretrovirals have been extensively discussed in the South African media. The negative perceptions of antiretrovirals that respondents may have as a result of the controversy associated with these ARVs may need to be addressed by communication campaigns. The citing of other brand names by the respondents could suggest that they were either using the drugs themselves or were familiar with someone who was.

Question 4: Question 4 was a structured, multiple-choice question with multiple answers. As antiretrovirals are not only utilised for the purposes of treating people with HIV/AIDS, but also as a prophylactic measure, Question 4 was designed to assess the context in which respondents had heard of the drugs. This may well have affected the information and beliefs they have about ARVs in general, despite the fact that ARVs for different purposes may be used and distributed in different ways. This question was also designed to focus respondents' attention on the fact that although ARVs can be used in different contexts, the remaining questions applied to only one of the categories mentioned: ARVs "to treat adults and children with HIV/AIDS".

Question 5: this question was a structured one, requiring an unstructured, qualitative response. It aimed to discover respondents' beliefs about the benefits associated with ARVs for the treatment of HIV/AIDS.

Question 6: Question 6 was also a structured one, requiring an unstructured, qualitative response. It aimed to assess respondents' beliefs about the major disadvantages associated with ARVs for the treatment of HIV/AIDS.

Question 7: Question 7 was a structured question, requiring an unstructured, qualitative response. It was designed to assess respondents' beliefs about possible competing products or

practices that they perceived could be used in place of, or together with, ARVs for the treatment of HIV/AIDS.

Question 8: Questions 8a, b and c were knowledge questions, designed to assess the accuracy of respondents' knowledge about certain basic facts concerning antiretrovirals. Each question was a structured, dichotomous one, requiring a structured true/false answer.

Question 9-13: Questions 9 through 13 were scaled questions, requiring an answer to be selected from a five point Likert Scale. Each of these five questions was designed to assess the respondents' attitudes about a particular issue related to antiretroviral therapy. Question 9 aimed to assess students' attitudes towards UKZN's provision of subsidised ARVs to students and staff; Question 10 to assess possible attitudes of stigma towards people with HIV/AIDS; Question 11 to analyse attitudes towards VCT; Question 12 to examine attitudes towards ARV therapy itself and Question 13 to assess students' attitudes towards offering their support to someone on ARV treatment. Questions 11, 12 and 13 were worded to refer to a third party in order to prevent respondents from feeling threatened, as they may have if the questions asked them to consider the situation as applied to themselves. According to Loubser (1999a:217), any questions that may embarrass respondents should rather be phrased to refer to a third party. In addition, as the advice and support of family and friends is considered to be vitally important in the adoption of, and successful adherence to, ARVs, Questions 11, 12 and 13 also addressed the extent to which respondents were willing to recommend VCT and ARV therapy to friends, and then support them in adhering to the treatment.

When the findings for this set of questions are presented, it will be assumed that students' responses to each of the five questions can be translated into a "positive", "negative" or "neutral" attitude. Thus, a student who strongly agrees or agrees with the statement "The university should supply cheap antiretrovirals to students and staff with HIV/AIDS" is assumed to have a positive attitude towards the rollout by UKZN.

Question 14: Question 14 focused specifically on UKZN's ARV Programme by assessing respondents' awareness of the rollout at UKZN. The question was a structured, dichotomous one, requiring a structured, yes/no response.

Question 15: Question 15 was also a structured, dichotomous one, requiring a structured, yes/no response. It assessed the perceived need of respondents for more information about the ARV rollout at UKZN.

Question 16: this question required five demographic indicators (campus, faculty, sex, race and urban/rural background) to be completed by respondents. This was designed to aid the classification and analysis of the data. The demographic questions were placed at the end of the questionnaire, in line with recommended protocol (see Borque and Fielder, 2003).

Appendix E: Covering letter and depth interview outline

March 2005

Dear Student,

Re: Urgent request for help with research study.

My name is Callen Morrison and I am a Masters student with Culture, Communication and Media Studies (CCMS), Howard College campus. I am currently involved in researching the rollout of antiretroviral drugs at UKZN; in particular the kinds of messages that need to be communicated to students about the drugs and how to access them.

As you are one of the few students on antiretrovirals, as part of UKZN's HIV/AIDS Treatment Programme, I urgently **need your help**. I would like to chat to you about your experiences with antiretrovirals, so that I can gain an insight into how the University can further assist you, and other students like you. The information you give me will also be used to assess how the University can reach students who need antiretroviral therapy, but have not yet accessed the Treatment Programme.

I would like to interview you, at a time and place convenient to you, for approximately 30 to 45 minutes. Your participation in the research will be entirely **voluntary** and any information you give me will be on a **confidential** basis. I have enclosed an information sheet that provides further details of the research procedure. If you have any more questions, or you would like to help me with my research, please contact me on 082 5381173 or email me at callenmorrison@yahoo.co.uk.

Please take some time to consider my request. I believe that the research will not only be beneficial to you as an individual, but also to the university community as a whole. I would greatly appreciate your help.

Sincerely,
Callen Morrison
B.Soc.Sci (Hons)

FOR YOUR INFORMATION...

What is the research about?

- The research is for my thesis: "Social Marketing and Health Service Promotion: a needs analysis for the antiretroviral rollout at the University of KwaZulu-Natal".
- The research examines which kinds of messages about antiretroviral drugs need to be communicated to students; both the general student population and those students who are already taking antiretrovirals.

What exactly do you have to do?

- I would like to interview you, at a time and place convenient to you.
- The interview will consist of some simple questions that have been approved by UKZN's Ethics Committee, and should take approximately 30 to 45 minutes.
- I will either tape the interview or take notes (depending on which you prefer) so that I have an accurate record of our conversation.

Contact me...

- If you would like to participate in the research or would just like to find out more information, you can contact me, Callen Morrison, on 082 5381173 or email me at callenmorrison@yahoo.co.uk.
- If you would like to talk to my supervisor, Professor Keyan Tomaselli (Culture, Communication and Media Studies), you can contact him on 031-2602505.

Why do I need your help?

- As you are one of the few students on antiretrovirals through the University's Treatment Programme, I urgently need your help. I would like to chat to you in order to gain insight into your experiences with antiretrovirals. The information you give me can in turn be used to develop services, resources and information campaigns so that all students who need to know about antiretrovirals can be reached.

What are your rights?

- Participation in this research is entirely **voluntary**. A decision not to participate will not result in any form of disadvantage to you.
- Your **anonymity of person** is guaranteed at every stage in the process; I will be the only person who will know your name. The information that you give me is entirely **confidential**. Your name will never be mentioned in any publication, and only summarised group information or anonymous quotations will be included in the final thesis. Your personal details will be kept in a safe place, separate from the transcript of your interview (which will be assigned a code). Once the data has been analysed, and the thesis completed, all records of your name and identifying details will be destroyed.
- You are **free to withdraw** from the research study at any stage before the thesis is handed in, even after the interview has been conducted.

Depth interview outline

1) Before hearing about UKZN's Treatment Programme, did you know anything about antiretrovirals? If yes, from which sources had you heard about antiretrovirals? What did you he

2) From which sources, and when, did you first hear about the University's Treatment Programr

3) Did you find it difficult to access information about antiretrovirals and/or the Treatment Programme before you started treatment?

4) Before deciding to start antiretroviral therapy, did you try any other methods of treatment (for example traditional healers, prayer, vitamins)?

5) When and why did you decide to start ARVs?

6) Now that you are on ARVs, what do you find to be the main benefits of taking the drugs?

7) What are the difficulties you have experienced in terms of taking ARVs?

8) If you have told family or friends that you have AIDS and are on ARVs, have they supported y in terms of your treatment? Do they offer you emotional and/or practical help? If you have not ha the support of family or friends, how have you coped?

9) Have you experienced any negative attitudes or behaviour directed towards you as a result of having HIV/AIDS or being on ARVs?

10) Have you found the services offered by the campus clinic to be useful? If yes, which services were particularly helpful? Which could be improved?

11) At any point in your treatment with ARVs (including before you started it) do you think that University should have provided you with more information, support or resources? If so, what in particular?

12) In light of your experiences with antiretroviral therapy, through UKZN's Treatment Program would you recommend it to someone else who had HIV or AIDS?

Question 1-16: Descriptive statistics

Statistics

		Q1AWARE	Q2ATV	Q2BFRIEN	Q2CRADIO	Q2DBILLB	Q2EPOLIT
	Valid	302	302	302	302	302	302
	Missing	0	0	0	0	0	0
lean		1.02	1.05	1.37	1.15	1.73	1.46
ledian		1.00	1.00	1.00	1.00	2.00	1.00
lode		1	1	1	1	2	1
td. Deviation		.140	.301	.531	.420	.495	.544
'ariance		.020	.091	.281	.176	.245	.296

Statistics

		Q2FDOC	Q2GNEWS	Q2HPOSTE	Q2IOTHER	Q3AAZT	Q3BNEVIR
I	Valid	302	302	302	302	302	302
	Missing	0	0	0	0	0	0
Mean		1.48	1.14	1.63	1.88	.40	.41
Median		2.00	1.00	2.00	2.00	.00	.00
Mode		2	1	2	2	0	0
Std. Deviation		.545	.411	.529	.386	.703	.718
Variance		.297	.169	.280	.149	.494	.516

Statistics

		Q3COTHER	Q4ANSTIC	Q4BRAPE	Q4CPMTCT	Q4DTREAT
N	Valid	302	302	302	302	302
	Missing	0	0	0	0	0
Mean		.53	1.60	1.42	1.15	1.25
Median		.00	2.00	1.00	1.00	1.00
Mode		0	2	1	1	1
Std. Deviation		.873	.549	.551	.430	.499
Variance		.761	.301	.304	.185	.249

Statistics

		Q4EOTHER	Q5ABIOL	Q5BSOCIA	Q5CECON	Q5DINCOR
N	Valid	302	302	302	302	302
	Missing	0	0	0	0	0
Mean		1.93	1.01	1.60	1.65	1.43
Median		2.00	1.00	2.00	2.00	2.00
Mode		2	1	2	2	2
Std. Deviation		.349	.599	.771	.762	.773
Variance		.122	.359	.594	.581	.598

Statistics

		Q5EOTHER	Q6ASIDEF	Q6BLIFE	Q6CSEX	Q6DADHER
	Valid	302	302	302	302	302
	Missing	0	0	0	0	0
ean		1.65	1.13	1.21	1.26	1.20
edian		2.00	1.00	2.00	2.00	2.00
ode		2	2	2	2	2
td. Deviation		.762	.899	.930	.944	.927
ariance		.581	.808	.865	.891	.859

Statistics

		Q6EACCES	Q6FINCOR	Q6GOTHER	Q7ASAFSE	Q7BEXERC
	Valid	302	302	302	302	302
	Missing	0	0	0	0	0
lean		1.13	1.26	1.13	1.17	1.24
ledian		1.00	2.00	1.00	1.00	2.00
lode		2	2	2	2	2
td. Deviation		.900	.944	.902	.890	.914
'ariance		.811	.891	.813	.792	.835

Statistics

		Q7CEAT	Q7DALT	Q7EINCOR	Q7FOTHER	Q7GNONE	Q8ACURE
	Valid	302	302	302	302	302	302
	Missing	0	0	0	0	0	0
lean		1.16	1.29	1.34	1.20	1.06	1.79
ledian		1.00	2.00	2.00	2.00	1.00	2.00
lode		2	2	2	2	2	2
td. Deviation		.886	.926	.936	.902	.841	.552
'ariance		.785	.857	.877	.813	.707	.305

Statistics

		Q8BLIFE	Q8CANYBO	Q9SUPPLY	Q10SIN	Q11VCT	Q12ADVIS
	Valid	302	302	302	302	302	302
	Missing	0	0	0	0	0	0
lean		1.04	1.63	3.99	1.28	4.55	4.28
ledian		1.00	2.00	4.00	1.00	5.00	5.00
lode		1	2	5	1	5	5
td. Deviation		.452	.678	1.251	.727	.969	1.098
'ariance		.204	.460	1.565	.528	.940	1.206

Statistics

		Q13SUPPO	Q14ACCES	Q15INFO	Q16ACAMP	Q16BFACU
	Valid	302	302	302	302	302
	Missing	0	0	0	0	0
ean		4.45	1.80	1.01	1.47	1.69
edian		5.00	2.00	1.00	1.00	2.00
lode		5	2	1	1	1
td. Deviation		.931	.454	.223	.500	.953
ariance		.867	.206	.050	.250	.907

Statistics

		Q16CSEX	Q16DRACE	Q16EBACK
	Valid	302	302	302
	Missing	0	0	0
lean		1.24	1.89	1.18
ledian		1.00	1.00	1.00
lode		1	1	1
td. Deviation		.429	1.002	.403
'ariance		.184	1.004	.163

Appendix F: Tables of frequencies and descriptive statistics

Appendix F: Tables of frequencies and descriptive statistics

Demographic information (Question 16)

Question 16a: Campus					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Westville	160	53.0	53.0	53.0
	Howard College	142	47.0	47.0	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other	
	Count	%	Count	%	Count	%	Count	%	Count	%
Westville	107	68.6%	1	2.8%	50	50.0%	2	25.0%		
Howard College	49	31.4%	35	97.2%	50	50.0%	6	75.0%	2	100.0%

Question 16b: Faculty					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Commerce and Management	142	47.0	47.0	47.0
	Humanities	141	46.7	46.7	93.7
	Science	8	2.6	2.6	96.4
	Engineering	1	.3	.3	96.7
	Law	7	2.3	2.3	99.0
	Health Sciences	2	.7	.7	99.7
	CADD	1	.3	.3	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Commerce and Management	68	43.6%	15	41.7%	55	55.0%	4	50.0%			76	47.5%	66	46.5%
Humanities	76	48.7%	21	58.3%	38	38.0%	4	50.0%	2	100.0%	70	43.8%	71	50.0%
Science	4	2.6%			4	4.0%					7	4.4%	1	.7%

Engineering	1	.6%								1	.6%			
Law	4	2.6%			3	3.0%				4	2.5%	3	2.1%	
Health Sciences	2	1.3%								2	1.3%			
CADD	1	.6%										1	.7%	

Question 16c: Sex					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	229	75.8	75.8	75.8
	Male	73	24.2	24.2	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Female	115	73.7%	26	72.2%	78	78.0%	8	100.0%	2	100.0%	124	77.5%	105	73.9%
Male	41	26.3%	10	27.8%	22	22.0%					36	22.5%	37	26.1%

Question 16d: Race					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Black	156	51.7	51.7	51.7
	White	36	11.9	11.9	63.6
	Indian	100	33.1	33.1	96.7
	Coloured	8	2.6	2.6	99.3
	Other	2	.7	.7	100.0
	Total	302	100.0	100.0	

	Westville		Howard College	
	Count	%	Count	%
Black	107	66.9%	49	34.5%
White	1	.6%	35	24.6%
Indian	50	31.3%	50	35.2%
Coloured	2	1.3%	6	4.2%

Other			2	1.4%

Question 16e: Background

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	2	.7	.7	.7
	Urban	243	80.5	80.5	81.1
	Rural	57	18.9	18.9	100.0
	Total	302	100.0	100.0	

	Westville		Howard College		Black		White		Indian		Coloured		Other	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer			2	1.4%	1	.6%			1	1.0%				
Urban	115	71.9%	128	90.1%	105	67.3%	36	100.0%	94	94.0%	8	100.0%		
Rural	45	28.1%	12	8.5%	50	32.1%			5	5.0%			2	100.0%

Awareness of antiretrovirals (Question 1)

Question 1: Awareness of ARVs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	296	98.0	98.0	98.0
	No	6	2.0	2.0	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	153	98.1%	35	97.2%	98	98.0%	8	100.0%	2	100.0%	155	96.9%	141	99.3%
No	3	1.9%	1	2.8%	2	2.0%					5	3.1%	1	.7%

Awareness of UKZN rollout (Question 14)

Question 14: Awareness of access to cheap ART

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	7	2.3	2.3	2.3
	Yes	46	15.2	15.2	17.5
	No	249	82.5	82.5	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	4	2.6%	1	2.8%	2	2.0%					6	3.8%	1	.7%
Yes	29	18.6%	6	16.7%	11	11.0%					17	10.6%	29	20.4%
No	123	78.8%	29	80.6%	87	87.0%	8	100.0%	2	100.0%	137	85.6%	112	78.9%

Knowledge of antiretroviral names (Question 3)

Question 3a: AZT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	218	72.2	72.2	72.2
	Yes	46	15.2	15.2	87.4
	No	38	12.6	12.6	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	107	68.6%	30	83.3%	74	74.0%	6	75.0%	1	50.0%	102	63.8%	116	81.7%
Yes	27	17.3%	5	13.9%	12	12.0%	2	25.0%			31	19.4%	15	10.6%

No	22	14.1 %	1	2.8%	14	14.0 %			1	50.0 %	27	16.9 %	11	7.7%

Question 3b: Nevirapine

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	218	72.2	72.2	72.2
	Yes	43	14.2	14.2	86.4
	No	41	13.6	13.6	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	107	68.6 %	30	83.3 %	74	74.0 %	6	75.0 %	1	50.0 %	102	63.8 %	116	81.7 %
Yes	26	16.7 %	1	2.8%	15	15.0 %			1	50.0 %	30	18.8 %	13	9.2%
No	23	14.7 %	5	13.9 %	11	11.0 %	2	25.0 %			28	17.5 %	13	9.2%

Question 3c: Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	218	72.2	72.2	72.2
	Yes	7	2.3	2.3	74.5
	No	77	25.5	25.5	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	107	68.6 %	30	83.3 %	74	74.0 %	6	75.0 %	1	50.0 %	102	63.8 %	116	81.7 %
Yes	6	3.8%			1	1.0%					5	3.1%	2	1.4%

No	43	27.6 %	6	16.7 %	25	25.0 %	2	25.0 %	1	50.0 %	53	33.1 %	24	16.9 %

Knowledge of different contexts in which ARVs are used (Question 4)

Question 4a: Needlestick

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	9	3.0	3.0	3.0
	Yes	104	34.4	34.4	37.4
	No	189	62.6	62.6	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	5	3.2%	1	2.8%	3	3.0%					7	4.4%	2	1.4%
Yes	39	25.0 %	19	52.8 %	42	42.0 %	3	37.5 %	1	50.0 %	40	25.0 %	64	45.1 %
No	112	71.8 %	16	44.4 %	55	55.0 %	5	62.5 %	1	50.0 %	113	70.6 %	76	53.5 %

Question 4b: Rape

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	9	3.0	3.0	3.0
	Yes	158	52.3	52.3	55.3
	No	135	44.7	44.7	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	5	3.2%	1	2.8%	3	3.0%					7	4.4%	2	1.4%

Yes	72	46.2 %	24	66.7 %	53	53.0 %	7	87.5 %	2	100.0 %	75	46.9 %	83	58.5 %
No	79	50.6 %	11	30.6 %	44	44.0 %	1	12.5 %			78	48.8 %	57	40.1 %

Question 4c: Prevention of mother to child transmission

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	9	3.0	3.0	3.0
	Yes	240	79.5	79.5	82.5
	No	53	17.5	17.5	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	5	3.2%	1	2.8%	3	3.0%					7	4.4%	2	1.4%
Yes	126	80.8 %	30	83.3 %	75	75.0 %	7	87.5 %	2	100.0 %	128	80.0 %	112	78.9 %
No	25	16.0 %	5	13.9 %	22	22.0 %	1	12.5 %			25	15.6 %	28	19.7 %

Question 4d: Treatment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	9	3.0	3.0	3.0
	Yes	208	68.9	68.9	71.9
	No	85	28.1	28.1	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	5	3.2%	1	2.8%	3	3.0%					7	4.4%	2	1.4%
Yes	99	63.5 %	29	80.6 %	71	71.0 %	7	87.5 %	2	100.0 %	105	65.6 %	103	72.5 %

No	52	33.3 %	6	16.7 %	26	26.0 %	1	12.5 %			48	30.0 %	37	26.1 %

Question 4e: Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	9	3.0	3.0	3.0
	Yes	2	.7	.7	3.6
	No	291	96.4	96.4	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	5	3.2%	1	2.8%	3	3.0%					7	4.4%	2	1.4%
Yes					2	2.0%							2	1.4%
No	151	96.8 %	35	97.2 %	95	95.0 %	8	100.0 %	2	100.0 %	153	95.6 %	138	97.2 %

Knowledge about antiretrovirals and access (Question 8)

Question 8a: Cure

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	21	7.0	7.0	7.0
	True	21	7.0	7.0	13.9
	False	260	86.1	86.1	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	11	7.1%	1	2.8%	9	9.0%					16	10.0 %	5	3.5%

True	12	7.7%			7	7.0%	2	25.0 %			12	7.5%	9	6.3%
False	133	85.3 %	35	97.2 %	84	84.0 %	6	75.0 %	2	100.0 %	132	82.5 %	128	90.1 %

Question 8b: Life-long treatment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	25	8.3	8.3	8.3
	True	240	79.5	79.5	87.7
	False	37	12.3	12.3	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	14	9.0%	1	2.8%	10	10.0 %					15	9.4%	10	7.0%
True	126	80.8 %	29	80.6 %	76	76.0 %	7	87.5 %	2	100.0 %	127	79.4 %	113	79.6 %
False	16	10.3 %	6	16.7 %	14	14.0 %	1	12.5 %			18	11.3 %	19	13.4 %

Question 8c: Given to anybody

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	34	11.3	11.3	11.3
	True	44	14.6	14.6	25.8
	False	224	74.2	74.2	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	18	11.5 %	2	5.6%	14	14.0 %					20	12.5 %	14	9.9%
True	26	16.7 %	7	19.4 %	10	10.0 %	1	12.5 %			24	15.0 %	20	14.1 %

False	112	71.8 %	27	75.0 %	76	76.0 %	7	87.5 %	2	100.0 %	116	72.5 %	108	76.1 %

Beliefs about the benefits of antiretrovirals (Question 5)

Question 5a: Biological advantages

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	53	17.5	17.5	17.5
	Yes	194	64.2	64.2	81.8
	No	55	18.2	18.2	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	25	16.0 %	1	2.8%	27	27.0 %					33	20.6 %	20	14.1 %
Yes	100	64.1 %	25	69.4 %	60	60.0 %	7	87.5 %	2	100.0 %	94	58.8 %	100	70.4 %
No	31	19.9 %	10	27.8 %	13	13.0 %	1	12.5 %			33	20.6 %	22	15.5 %

Question 5b: Social advantages

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	53	17.5	17.5	17.5
	Yes	16	5.3	5.3	22.8
	No	233	77.2	77.2	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	25	16.0 %	1	2.8%	27	27.0 %					33	20.6 %	20	14.1 %

Yes	7	4.5%	2	5.6%	6	6.0%	1	12.5 %			13	8.1%	3	2.1%
No	124	79.5 %	33	91.7 %	67	67.0 %	7	87.5 %	2	100.0 %	114	71.3 %	119	83.8 %

Question 5c: Incorrect answer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	53	17.5	17.5	17.5
	Yes	66	21.9	21.9	39.4
	No	183	60.6	60.6	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	25	16.0 %	1	2.8%	27	27.0 %					33	20.6 %	20	14.1 %
Yes	30	19.2 %	13	36.1 %	20	20.0 %	3	37.5 %			34	21.3 %	32	22.5 %
No	101	64.7 %	22	61.1 %	53	53.0 %	5	62.5 %	2	100.0 %	93	58.1 %	90	63.4 %

Question 5d: Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	53	17.5	17.5	17.5
	No	249	82.5	82.5	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	25	16.0 %	1	2.8%	27	27.0 %					33	20.6 %	20	14.1 %
No	131	84.0 %	35	97.2 %	73	73.0 %	8	100.0 %	2	100.0 %	127	79.4 %	122	85.9 %

Beliefs about the disadvantages of antiretrovirals (Question 6)

Question 6a: Side-effects

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	105	34.8	34.8	34.8
	Yes	54	17.9	17.9	52.6
	No	143	47.4	47.4	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	38	24.4 %	9	25.0 %	54	54.0 %	3	37.5 %	1	50.0 %	51	31.9 %	54	38.0 %
Yes	34	21.8 %	5	13.9 %	12	12.0 %	3	37.5 %			25	15.6 %	29	20.4 %
No	84	53.8 %	22	61.1 %	34	34.0 %	2	25.0 %	1	50.0 %	84	52.5 %	59	41.5 %

Question 6b: Life-long/not a cure

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	105	34.8	34.8	34.8
	Yes	28	9.3	9.3	44.0
	No	169	56.0	56.0	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	38	24.4 %	9	25.0 %	54	54.0 %	3	37.5 %	1	50.0 %	51	31.9 %	54	38.0 %
Yes	21	13.5 %	2	5.6%	5	5.0%					18	11.3 %	10	7.0%
No	97	62.2 %	25	69.4 %	41	41.0 %	5	62.5 %	1	50.0 %	91	56.9 %	78	54.9 %

Question 6c: Careless sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	105	34.8	34.8	34.8
	Yes	13	4.3	4.3	39.1
	No	184	60.9	60.9	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	38	24.4%	9	25.0%	54	54.0%	3	37.5%	1	50.0%	51	31.9%	54	38.0%
Yes	9	5.8%	3	8.3%	1	1.0%					8	5.0%	5	3.5%
No	109	69.9%	24	66.7%	45	45.0%	5	62.5%	1	50.0%	101	63.1%	83	58.5%

Question 6d: Adherence

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	105	34.8	34.8	34.8
	Yes	31	10.3	10.3	45.0
	No	166	55.0	55.0	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	38	24.4%	9	25.0%	54	54.0%	3	37.5%	1	50.0%	51	31.9%	54	38.0%
Yes	21	13.5%	3	8.3%	4	4.0%	2	25.0%	1	50.0%	21	13.1%	10	7.0%
No	97	62.2%	24	66.7%	42	42.0%	3	37.5%			88	55.0%	78	54.9%

Question 6e: Access

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	105	34.8	34.8	34.8
	Yes	53	17.5	17.5	52.3
	No	144	47.7	47.7	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	38	24.4%	9	25.0%	54	54.0%	3	37.5%	1	50.0%	51	31.9%	54	38.0%
Yes	21	13.5%	15	41.7%	16	16.0%	1	12.5%			23	14.4%	30	21.1%
No	97	62.2%	12	33.3%	30	30.0%	4	50.0%	1	50.0%	86	53.8%	58	40.8%

Question 6f: Incorrect answer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	105	34.8	34.8	34.8
	Yes	13	4.3	4.3	39.1
	No	184	60.9	60.9	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	38	24.4%	9	25.0%	54	54.0%	3	37.5%	1	50.0%	51	31.9%	54	38.0%
Yes	12	7.7%			1	1.0%					7	4.4%	6	4.2%
No	106	67.9%	27	75.0%	45	45.0%	5	62.5%	1	50.0%	102	63.8%	82	57.7%

Question 6g: Other					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	105	34.8	34.8	34.8
	Yes	52	17.2	17.2	52.0
	No	145	48.0	48.0	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	38	24.4%	9	25.0%	54	54.0%	3	37.5%	1	50.0%	51	31.9%	54	38.0%
Yes	29	18.6%	5	13.9%	16	16.0%	2	25.0%			33	20.6%	19	13.4%
No	89	57.1%	22	61.1%	30	30.0%	3	37.5%	1	50.0%	76	47.5%	69	48.6%

Beliefs about other options to treat HIV/AIDS (Question 7)

Question 7a: Safe sex					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	98	32.5	32.5	32.5
	Yes	55	18.2	18.2	50.7
	No	149	49.3	49.3	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	36	23.1%	13	36.1%	44	44.0%	4	50.0%	1	50.0%	52	32.5%	46	32.4%
Yes	38	24.4%	4	11.1%	13	13.0%					32	20.0%	23	16.2%
No	82	52.6%	19	52.8%	43	43.0%	4	50.0%	1	50.0%	76	47.5%	73	51.4%

Question 7b: Exercise					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	98	32.5	32.5	32.5
	Yes	33	10.9	10.9	43.4
	No	171	56.6	56.6	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	36	23.1%	13	36.1%	44	44.0%	4	50.0%	1	50.0%	52	32.5%	46	32.4%
Yes	27	17.3%	1	2.8%	4	4.0%	1	12.5%			20	12.5%	13	9.2%
No	93	59.6%	22	61.1%	52	52.0%	3	37.5%	1	50.0%	88	55.0%	83	58.5%

Question 7c: Healthy eating/vitamins					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	98	32.5	32.5	32.5
	Yes	58	19.2	19.2	51.7
	No	146	48.3	48.3	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	36	23.1%	13	36.1%	44	44.0%	4	50.0%	1	50.0%	52	32.5%	46	32.4%
Yes	46	29.5%	4	11.1%	6	6.0%	2	25.0%			30	18.8%	28	19.7%
No	74	47.4%	19	52.8%	50	50.0%	2	25.0%	1	50.0%	78	48.8%	68	47.9%

Question 7d: Alternative therapies

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	98	32.5	32.5	32.5
	Yes	19	6.3	6.3	38.7
	No	185	61.3	61.3	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	36	23.1%	13	36.1%	44	44.0%	4	50.0%	1	50.0%	52	32.5%	46	32.4%
Yes	13	8.3%	1	2.8%	2	2.0%	2	25.0%	1	50.0%	13	8.1%	6	4.2%
No	107	68.6%	22	61.1%	54	54.0%	2	25.0%			95	59.4%	90	63.4%

Question 7e: Incorrect answer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	98	32.5	32.5	32.5
	Yes	3	1.0	1.0	33.4
	No	201	66.6	66.6	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	36	23.1%	13	36.1%	44	44.0%	4	50.0%	1	50.0%	52	32.5%	46	32.4%
Yes	1	.6%			2	2.0%					2	1.3%	1	.7%
No	119	76.3%	23	63.9%	54	54.0%	4	50.0%	1	50.0%	106	66.3%	95	66.9%

Question 7f: Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	98	32.5	32.5	32.5
	Yes	45	14.9	14.9	47.4
	No	159	52.6	52.6	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	36	23.1%	13	36.1%	44	44.0%	4	50.0%	1	50.0%	52	32.5%	46	32.4%
Yes	26	16.7%	4	11.1%	13	13.0%	2	25.0%			27	16.9%	18	12.7%
No	94	60.3%	19	52.8%	43	43.0%	2	25.0%	1	50.0%	81	50.6%	78	54.9%

Question 7g: None

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	98	32.5	32.5	32.5
	Yes	88	29.1	29.1	61.6
	No	116	38.4	38.4	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	36	23.1%	13	36.1%	44	44.0%	4	50.0%	1	50.0%	52	32.5%	46	32.4%
Yes	40	25.6%	18	50.0%	29	29.0%	1	12.5%			37	23.1%	51	35.9%
No	80	51.3%	5	13.9%	27	27.0%	3	37.5%	1	50.0%	71	44.4%	45	31.7%

Attitudes towards ARV-related issues (Question 9-13)

Question 9: "The university should supply cheap antiretrovirals..."

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	7	2.3	2.3	2.3
	Strongly Disagree	13	4.3	4.3	6.6
	Disagree	14	4.6	4.6	11.3
	Neutral	47	15.6	15.6	26.8
	Agree	82	27.2	27.2	54.0
	Strongly Agree	139	46.0	46.0	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	3	1.9%	1	2.8%	3	3.0%					5	3.1%	2	1.4%
Strongly Disagree	9	5.8%	1	2.8%	3	3.0%					9	5.6%	4	2.8%
Disagree	4	2.6%	3	8.3%	5	5.0%	2	25.0%			5	3.1%	9	6.3%
Neutral	18	11.5%	6	16.7%	23	23.0%					26	16.3%	21	14.8%
Agree	39	25.0%	13	36.1%	25	25.0%	4	50.0%	1	50.0%	37	23.1%	45	31.7%
Strongly Agree	83	53.2%	12	33.3%	41	41.0%	2	25.0%	1	50.0%	78	48.8%	61	43.0%

Question 10: "Most people with HIV/AIDS have sinned..."

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	6	2.0	2.0	2.0
	Strongly Disagree	234	77.5	77.5	79.5
	Disagree	43	14.2	14.2	93.7
	Neutral	13	4.3	4.3	98.0
	Agree	2	.7	.7	98.7

	Strongly Agree	4	1.3	1.3	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	3	1.9%	1	2.8%	2	2.0%					5	3.1%	1	.7%
Strongly Disagree	131	84.0%	26	72.2%	70	70.0%	5	62.5%	2	100.0%	126	78.8%	108	76.1%
Disagree	13	8.3%	5	13.9%	23	23.0%	2	25.0%			19	11.9%	24	16.9%
Neutral	5	3.2%	2	5.6%	5	5.0%	1	12.5%			7	4.4%	6	4.2%
Agree	1	.6%	1	2.8%							1	.6%	1	.7%
Strongly Agree	3	1.9%	1	2.8%							2	1.3%	2	1.4%

Question 11: "If I had a friend... voluntary counselling and testing (VCT)."

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	6	2.0	2.0	2.0
	Strongly Disagree	4	1.3	1.3	3.3
	Disagree	2	.7	.7	4.0
	Neutral	14	4.6	4.6	8.6
	Agree	57	18.9	18.9	27.5
	Strongly Agree	219	72.5	72.5	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answe	3	1.9%	1	2.8%	2	2.0%					5	3.1%	1	.7%

r														
Strongly Disagree	4	2.6%									4	2.5%		
Disagree	1	.6%			1	1.0%					2	1.3%		
Neutral	12	7.7%			2	2.0%					10	6.3%	4	2.8%
Agree	29	18.6%	9	25.0%	15	15.0%	3	37.5%	1	50.0%	28	17.5%	29	20.4%
Strongly Agree	107	68.6%	26	72.2%	80	80.0%	5	62.5%	1	50.0%	111	69.4%	108	76.1%

Question 12: "If I knew someone... antiretroviral treatment".

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	8	2.6	2.6	2.6
	Strongly Disagree	4	1.3	1.3	4.0
	Disagree	6	2.0	2.0	6.0
	Neutral	29	9.6	9.6	15.6
	Agree	85	28.1	28.1	43.7
	Strongly Agree	170	56.3	56.3	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	4	2.6%	1	2.8%	3	3.0%					6	3.8%	2	1.4%
Strongly Disagree	3	1.9%			1	1.0%					4	2.5%		
Disagree	5	3.2%			1	1.0%					5	3.1%	1	.7%
Neutral	17	10.9%	3	8.3%	9	9.0%					17	10.6%	12	8.5%
Agree	39	25.0%	12	33.3%	28	28.0%	5	62.5%	1	50.0%	34	21.3%	51	35.9%
Strongly	88	56.4%	20	55.6%	58	58.0%	3	37.5%	1	50.0%	94	58.8%	76	53.5%

Agree														

Question 13: "If I knew somone... prepared to offer them support..."

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	6	2.0	2.0	2.0
	Strongly Disagree	1	.3	.3	2.3
	Disagree	4	1.3	1.3	3.6
	Neutral	15	5.0	5.0	8.6
	Agree	89	29.5	29.5	38.1
	Strongly Agree	187	61.9	61.9	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	3	1.9%	1	2.8%	2	2.0%					5	3.1%	1	.7%
Strongly Disagree	1	.6%									1	.6%		
Disagree	3	1.9%							1	50.0%	2	1.3%	2	1.4%
Neutral	7	4.5%	3	8.3%	5	5.0%					3	1.9%	12	8.5%
Agree	39	25.0%	13	36.1%	33	33.0%	4	50.0%			42	26.3%	47	33.1%
Strongly Agree	103	66.0%	19	52.8%	60	60.0%	4	50.0%	1	50.0%	107	66.9%	80	56.3%

Sources of information on antiretrovirals (Question 2)

Question 2a: Television

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	7	2.3	2.3	2.3
	Yes	274	90.7	90.7	93.0
	No	21	7.0	7.0	100.0

Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	3	1.9%	1	2.8%	3	3.0%					6	3.8%	1	.7%
Yes	141	90.4%	32	88.9%	93	93.0%	6	75.0%	2	100.0%	148	92.5%	126	88.7%
No	12	7.7%	3	8.3%	4	4.0%	2	25.0%			6	3.8%	15	10.6%

Question 2b: Friends/Family

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	7	2.3	2.3	2.3
	Yes	175	57.9	57.9	60.3
	No	120	39.7	39.7	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	3	1.9%	1	2.8%	3	3.0%					6	3.8%	1	.7%
Yes	92	59.0%	26	72.2%	48	48.0%	8	100.0%	1	50.0%	83	51.9%	92	64.8%
No	61	39.1%	9	25.0%	49	49.0%			1	50.0%	71	44.4%	49	34.5%

Question 2c: Radio

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	7	2.3	2.3	2.3
	Yes	242	80.1	80.1	82.5
	No	53	17.5	17.5	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	3	1.9%	1	2.8%	3	3.0%					6	3.8%	1	.7%
Yes	132	84.6%	27	75.0%	79	79.0%	3	37.5%	1	50.0%	137	85.6%	105	73.9%
No	21	13.5%	8	22.2%	18	18.0%	5	62.5%	1	50.0%	17	10.6%	36	25.4%

Question 2d: Billboards

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	7	2.3	2.3	2.3
	Yes	68	22.5	22.5	24.8
	No	227	75.2	75.2	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	3	1.9%	1	2.8%	3	3.0%					6	3.8%	1	.7%
Yes	31	19.9%	6	16.7%	30	30.0%	1	12.5%			39	24.4%	29	20.4%
No	122	78.2%	29	80.6%	67	67.0%	7	87.5%	2	100.0%	115	71.9%	112	78.9%

Question 2e: Politicians/Activists

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	7	2.3	2.3	2.3
	Yes	148	49.0	49.0	51.3
	No	147	48.7	48.7	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	3	1.9%	1	2.8%	3	3.0%					6	3.8%	1	.7%
Yes	86	55.1%	18	50.0%	39	39.0%	4	50.0%	1	50.0%	81	50.6%	67	47.2%
No	67	42.9%	17	47.2%	58	58.0%	4	50.0%	1	50.0%	73	45.6%	74	52.1%

Question 2f: Doctors/Nurses

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	7	2.3	2.3	2.3
	Yes	143	47.4	47.4	49.7
	No	152	50.3	50.3	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	3	1.9%	1	2.8%	3	3.0%					6	3.8%	1	.7%
Yes	88	56.4%	7	19.4%	44	44.0%	3	37.5%	1	50.0%	93	58.1%	50	35.2%
No	65	41.7%	28	77.8%	53	53.0%	5	62.5%	1	50.0%	61	38.1%	91	64.1%

Question 2g: Newspapers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	7	2.3	2.3	2.3
	Yes	245	81.1	81.1	83.4
	No	50	16.6	16.6	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No	3	1.9%	1	2.8%	3	3.0%					6	3.8%	1	.7%

Answer														
Yes	121	77.6%	28	77.8%	86	86.0%	8	100.0%	2	100.0%	132	82.5%	113	79.6%
No	32	20.5%	7	19.4%	11	11.0%					22	13.8%	28	19.7%

Question 2h: Posters/Flyers on campus

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	7	2.3	2.3	2.3
	Yes	97	32.1	32.1	34.4
	No	198	65.6	65.6	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	3	1.9%	1	2.8%	3	3.0%					6	3.8%	1	.7%
Yes	54	34.6%	8	22.2%	33	33.0%	1	12.5%	1	50.0%	56	35.0%	41	28.9%
No	99	63.5%	27	75.0%	64	64.0%	7	87.5%	1	50.0%	98	61.3%	100	70.4%

Question 2i: Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	7	2.3	2.3	2.3
	Yes	21	7.0	7.0	9.3
	No	274	90.7	90.7	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	3	1.9%	1	2.8%	3	3.0%					6	3.8%	1	.7%
Yes	12	7.7%	3	8.3%	4	4.0%	1	12.5%	1	50.0%	10	6.3%	11	7.7%
No	141	90.4%	32	88.9%	93	93.0%	7	87.5%	1	50.0%	144	90.0%	130	91.5%

Perceived need for more information on rollout (Question 15)

Question 15: More Information on provision of ARVs					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Answer	6	2.0	2.0	2.0
	Yes	287	95.0	95.0	97.0
	No	9	3.0	3.0	100.0
	Total	302	100.0	100.0	

	Black		White		Indian		Coloured		Other		Westville		Howard College	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
No Answer	3	1.9%	1	2.8%	2	2.0%					5	3.1%	1	.7%
Yes	146	93.6%	35	97.2%	97	97.0%	7	87.5%	2	100.0%	150	93.8%	137	96.5%
No	7	4.5%			1	1.0%	1	12.5%			5	3.1%	4	2.8%

Appendix G: Significance tests

Appendix G: Significance tests

Awareness of antiretrovirals (Question 1)

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q1AWARE * Q16DRACE	292	100.0%	0	.0%	292	100.0%

Q1AWARE * Q16DRACE Crosstabulation

			Q16DRACE			
			Black	White	Indian	Total
Q1AWARE	Yes	Count	153	35	98	286
		Expected Count	152.8	35.3	97.9	286.0
		% within Q16DRACE	98.1%	97.2%	98.0%	97.9%
	No	Count	3	1	2	6
		Expected Count	3.2	.7	2.1	6.0
		% within Q16DRACE	1.9%	2.8%	2.0%	2.1%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.108(a)	2	.947
Likelihood Ratio	.100	2	.951
N of Valid Cases	292		

a 3 cells (50.0%) have expected count less than 5. The minimum expected count is .74.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.019	.947
	Cramer's V	.019	.947
	Contingency Coefficient	.019	.947
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q1AWARE * Q16ACAMP	302	100.0%	0	.0%	302	100.0%

Q1AWARE * Q16ACAMP Crosstabulation

			Q16ACAMP		
			Westville	Howard College	Total
Q1AWARE	Yes	Count	155	141	296
		Expected Count	156.8	139.2	296.0
		% within Q16ACAMP	96.9%	99.3%	98.0%
	No	Count	5	1	6
		Expected Count	3.2	2.8	6.0
		% within Q16ACAMP	3.1%	.7%	2.0%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.264(b)	1	.132		
Continuity Correction(a)	1.192	1	.275		
Likelihood Ratio	2.500	1	.114		
Fisher's Exact Test				.219	.137
N of Valid Cases	302				

a Computed only for a 2x2 table

b 2 cells (50.0%) have expected count less than 5. The minimum expected count is 2.82.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.087	.132
	Cramer's V	.087	.132

	Contingency Coefficient	.086	.132
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Awareness of university rollout (Question 14)

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q14ACCES * Q16DRACE	285	100.0%	0	.0%	285	100.0%

Q14ACCES * Q16DRACE Crosstabulation

			Q16DRACE			
			Black	White	Indian	Total
Q14ACCES	Yes	Count	29	6	11	46
		Expected Count	24.5	5.6	15.8	46.0
		% within Q16DRACE	19.1%	17.1%	11.2%	16.1%
	No	Count	123	29	87	239
		Expected Count	127.5	29.4	82.2	239.0
		% within Q16DRACE	80.9%	82.9%	88.8%	83.9%
Total		Count	152	35	98	285
		Expected Count	152.0	35.0	98.0	285.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.745(a)	2	.253
Likelihood Ratio	2.873	2	.238
N of Valid Cases	285		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.65.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.098	.253

	Cramer's V	.098	.253
	Contingency Coefficient	.098	.253
N of Valid Cases		285	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q14ACCES * Q16ACAMP	295	100.0%	0	.0%	295	100.0%

Q14ACCES * Q16ACAMP Crosstabulation

			Q16ACAMP		
			Westville	Howard College	Total
Q14ACCES	Yes	Count	17	29	46
		Expected Count	24.0	22.0	46.0
		% within Q16ACAMP	11.0%	20.6%	15.6%
	No	Count	137	112	249
		Expected Count	130.0	119.0	249.0
		% within Q16ACAMP	89.0%	79.4%	84.4%
Total		Count	154	141	295
		Expected Count	154.0	141.0	295.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.077(b)	1	.024		
Continuity Correction(a)	4.379	1	.036		
Likelihood Ratio	5.108	1	.024		
Fisher's Exact Test				.026	.018
N of Valid Cases	295				

a Computed only for a 2x2 table

b 0 cells (.0%) have expected count less than 5. The minimum expected count is 21.99.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.131	.024
	Cramer's V	.131	.024
	Contingency Coefficient	.130	.024
N of Valid Cases		295	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Knowledge of antiretroviral names (Question 3)

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q3AAZT * Q16DRACE	292	100.0%	0	.0%	292	100.0%
Q3BNEVIR * Q16DRACE	292	100.0%	0	.0%	292	100.0%
Q3COTHER * Q16DRACE	292	100.0%	0	.0%	292	100.0%

Q3AAZT * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q3AAZT	No Answer	Count	107	30	74	211
		Expected Count	112.7	26.0	72.3	211.0
		% within Q16DRACE	68.6%	83.3%	74.0%	72.3%
	Yes	Count	27	5	12	44
		Expected Count	23.5	5.4	15.1	44.0
		% within Q16DRACE	17.3%	13.9%	12.0%	15.1%
	No	Count	22	1	14	37
		Expected Count	19.8	4.6	12.7	37.0
		% within Q16DRACE	14.1%	2.8%	14.0%	12.7%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0

	% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.293(a)	4	.259
Likelihood Ratio	6.587	4	.159
N of Valid Cases	292		

a 1 cells (11.1%) have expected count less than 5. The minimum expected count is 4.56.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.135	.259
	Cramer's V	.095	.259
	Contingency Coefficient	.133	.259
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q3BNEVIR * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q3BNEVIR	No Answer	Count	107	30	74	211
		Expected Count	112.7	26.0	72.3	211.0
		% within Q16DRACE	68.6%	83.3%	74.0%	72.3%
	Yes	Count	26	1	15	42
		Expected Count	22.4	5.2	14.4	42.0
		% within Q16DRACE	16.7%	2.8%	15.0%	14.4%
	No	Count	23	5	11	39
		Expected Count	20.8	4.8	13.4	39.0
		% within Q16DRACE	14.7%	13.9%	11.0%	13.4%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.555(a)	4	.235
Likelihood Ratio	7.218	4	.125
N of Valid Cases	292		

a 1 cells (11.1%) have expected count less than 5. The minimum expected count is 4.81.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.138	.235
	Cramer's V	.098	.235
	Contingency Coefficient	.137	.235
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q3COTHER * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q3COTHER	No Answer	Count	107	30	74	211
		Expected Count	112.7	26.0	72.3	211.0
		% within Q16DRACE	68.6%	83.3%	74.0%	72.3%
	Yes	Count	6	0	1	7
		Expected Count	3.7	.9	2.4	7.0
		% within Q16DRACE	3.8%	.0%	1.0%	2.4%
	No	Count	43	6	25	74
		Expected Count	39.5	9.1	25.3	74.0
		% within Q16DRACE	27.6%	16.7%	25.0%	25.3%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.365(a)	4	.252
Likelihood Ratio	6.361	4	.174
N of Valid Cases	292		

a 3 cells (33.3%) have expected count less than 5. The minimum expected count is .86.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.136	.252
	Cramer's V	.096	.252
	Contingency Coefficient	.134	.252
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q3AAZT * Q16ACAMP	302	100.0%	0	.0%	302	100.0%
Q3BNEVIR * Q16ACAMP	302	100.0%	0	.0%	302	100.0%
Q3COTHER * Q16ACAMP	302	100.0%	0	.0%	302	100.0%

Q3AAZT * Q16ACAMP

Crosstab

			Q16ACAMP		
			Westville	Howard College	Total
Q3AAZT	No Answer	Count	102	116	218
		Expected Count	115.5	102.5	218.0
		% within Q16ACAMP	63.8%	81.7%	72.2%
	Yes	Count	31	15	46
		Expected Count	24.4	21.6	46.0
		% within Q16ACAMP	19.4%	10.6%	15.2%

	No	Count	27	11	38
		Expected Count	20.1	17.9	38.0
		% within Q16ACAMP	16.9%	7.7%	12.6%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.172(a)	2	.002
Likelihood Ratio	12.461	2	.002
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 17.87.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.201	.002
	Cramer's V	.201	.002
	Contingency Coefficient	.197	.002
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q3BNEVIR * Q16ACAMP

Crosstab

			Q16ACAMP		
			Westville	Howard College	Total
Q3BNEVIR	No Answer	Count	102	116	218
		Expected Count	115.5	102.5	218.0
		% within Q16ACAMP	63.8%	81.7%	72.2%
	Yes	Count	30	13	43
		Expected Count	22.8	20.2	43.0
		% within Q16ACAMP	18.8%	9.2%	14.2%
	No	Count	28	13	41

		Expected Count	21.7	19.3	41.0
		% within Q16ACAMP	17.5%	9.2%	13.6%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.078(a)	2	.002
Likelihood Ratio	12.351	2	.002
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 19.28.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.200	.002
	Cramer's V	.200	.002
	Contingency Coefficient	.196	.002
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q3COTHER * Q16ACAMP

Crosstab

			Q16ACAMP		
			Westville	Howard College	Total
Q3COTHER	No Answer	Count	102	116	218
		Expected Count	115.5	102.5	218.0
		% within Q16ACAMP	63.8%	81.7%	72.2%
	Yes	Count	5	2	7
		Expected Count	3.7	3.3	7.0
		% within Q16ACAMP	3.1%	1.4%	2.3%
	No	Count	53	24	77
		Expected Count	40.8	36.2	77.0

		% within Q16ACAMP	33.1%	16.9%	25.5%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.077(a)	2	.002
Likelihood Ratio	12.351	2	.002
N of Valid Cases	302		

a 2 cells (33.3%) have expected count less than 5. The minimum expected count is 3.29.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.200	.002
	Cramer's V	.200	.002
	Contingency Coefficient	.196	.002
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Knowledge of different contexts in which ARVs are used (Question 4)

Q4ANSTIC * Q16DRACE

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q4ANSTIC * Q16DRACE	283	100.0%	0	.0%	283	100.0%

Q4ANSTIC * Q16DRACE Crosstabulation

			Q16DRACE			
			Black	White	Indian	Total
Q4ANSTIC	Yes	Count	39	19	42	100
		Expected Count	53.4	12.4	34.3	100.0

		% within Q16DRACE	25.8%	54.3%	43.3%	35.3%
	No	Count	112	16	55	183
		Expected Count	97.6	22.6	62.7	183.0
		% within Q16DRACE	74.2%	45.7%	56.7%	64.7%
Total		Count	151	35	97	283
		Expected Count	151.0	35.0	97.0	283.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.167(a)	2	.001
Likelihood Ratio	14.114	2	.001
N of Valid Cases	283		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 12.37.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.224	.001
	Cramer's V	.224	.001
	Contingency Coefficient	.218	.001
N of Valid Cases		283	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q4BRAPE * Q16DRACE

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q4BRAPE * Q16DRACE	283	100.0%	0	.0%	283	100.0%

Q4BRAPE * Q16DRACE Crosstabulation

			Q16DRACE			
			Black	White	Indian	Total
Q4BRAPE	Yes	Count	72	24	53	149

		Expected Count	79.5	18.4	51.1	149.0
		% within Q16DRACE	47.7%	68.6%	54.6%	52.7%
	No	Count	79	11	44	134
		Expected Count	71.5	16.6	45.9	134.0
		% within Q16DRACE	52.3%	31.4%	45.4%	47.3%
Total		Count	151	35	97	283
		Expected Count	151.0	35.0	97.0	283.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.208(a)	2	.074
Likelihood Ratio	5.312	2	.070
N of Valid Cases	283		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 16.57.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.136	.074
	Cramer's V	.136	.074
	Contingency Coefficient	.134	.074
N of Valid Cases		283	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q4CPMTCT * Q16DRACE

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q4CPMTCT * Q16DRACE	283	100.0%	0	.0%	283	100.0%

Q4CPMTCT * Q16DRACE Crosstabulation

			Q16DRACE			Total
			Black	White	Indian	
Q4CPMTCT	Yes	Count	126	30	75	231
		Expected Count	123.3	28.6	79.2	231.0
		% within Q16DRACE	83.4%	85.7%	77.3%	81.6%
	No	Count	25	5	22	52
		Expected Count	27.7	6.4	17.8	52.0
		% within Q16DRACE	16.6%	14.3%	22.7%	18.4%
Total		Count	151	35	97	283
		Expected Count	151.0	35.0	97.0	283.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.922(a)	2	.382
Likelihood Ratio	1.892	2	.388
N of Valid Cases	283		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.43.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.082	.382
	Cramer's V	.082	.382
	Contingency Coefficient	.082	.382
N of Valid Cases		283	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q4DTREAT * Q16DRACE

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q4DTREAT * Q16DRACE	283	100.0%	0	.0%	283	100.0%

Q4DTREAT * Q16DRACE Crosstabulation

			Q16DRACE			Total
			Black	White	Indian	

Q4DTREAT	Yes	Count	99	29	71	199
		Expected Count	106.2	24.6	68.2	199.0
		% within Q16DRACE	65.6%	82.9%	73.2%	70.3%
	No	Count	52	6	26	84
		Expected Count	44.8	10.4	28.8	84.0
		% within Q16DRACE	34.4%	17.1%	26.8%	29.7%
Total		Count	151	35	97	283
		Expected Count	151.0	35.0	97.0	283.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.657(a)	2	.097
Likelihood Ratio	4.913	2	.086
N of Valid Cases	283		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.39.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.128	.097
	Cramer's V	.128	.097
	Contingency Coefficient	.127	.097
N of Valid Cases		283	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q4EOTHER * Q16DRACE

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q4EOTHER * Q16DRACE	283	100.0%	0	.0%	283	100.0%

Q4EOTHER * Q16DRACE Crosstabulation

			Q16DRACE			
			Black	White	Indian	Total
Q4EOTHER	Yes	Count	0	0	2	2
		Expected Count	1.1	.2	.7	2.0
		% within Q16DRACE	.0%	.0%	2.1%	.7%
	No	Count	151	35	95	281
		Expected Count	149.9	34.8	96.3	281.0
		% within Q16DRACE	100.0%	100.0%	97.9%	99.3%
Total		Count	151	35	97	283
		Expected Count	151.0	35.0	97.0	283.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.862(a)	2	.145
Likelihood Ratio	4.310	2	.116
N of Valid Cases	283		

a 3 cells (50.0%) have expected count less than 5. The minimum expected count is .25.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.117	.145
	Cramer's V	.117	.145
	Contingency Coefficient	.116	.145
N of Valid Cases		283	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent

Q4ANSTIC * Q16ACAMP	293	100.0%	0	.0%	293	100.0%
Q4BRAPE * Q16ACAMP	293	100.0%	0	.0%	293	100.0%
Q4CPMTCT * Q16ACAMP	293	100.0%	0	.0%	293	100.0%
Q4DTREAT * Q16ACAMP	293	100.0%	0	.0%	293	100.0%
Q4EOTHER * Q16ACAMP	293	100.0%	0	.0%	293	100.0%

Q4ANSTIC * Q16ACAMP

Crosstab

			Q16ACAMP		
			Westville	Howard College	Total
Q4ANSTIC	Yes	Count	40	64	104
		Expected Count	54.3	49.7	104.0
		% within Q16ACAMP	26.1%	45.7%	35.5%
	No	Count	113	76	189
		Expected Count	98.7	90.3	189.0
		% within Q16ACAMP	73.9%	54.3%	64.5%
Total		Count	153	140	293
		Expected Count	153.0	140.0	293.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	12.229(b)	1	.000		
Continuity Correction(a)	11.389	1	.001		
Likelihood Ratio	12.302	1	.000		
Fisher's Exact Test				.001	.000
N of Valid Cases	293				

a Computed only for a 2x2 table

b 0 cells (.0%) have expected count less than 5. The minimum expected count is 49.69.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.204	.000
	Cramer's V	.204	.000

	Contingency Coefficient	.200	.000
N of Valid Cases		293	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q4BRAPE * Q16ACAMP

Crosstab

			Q16ACAMP		
			Westville	Howard College	Total
Q4BRAPE	Yes	Count	75	83	158
		Expected Count	82.5	75.5	158.0
		% within Q16ACAMP	49.0%	59.3%	53.9%
	No	Count	78	57	135
		Expected Count	70.5	64.5	135.0
		% within Q16ACAMP	51.0%	40.7%	46.1%
Total		Count	153	140	293
		Expected Count	153.0	140.0	293.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.101(b)	1	.078		
Continuity Correction(a)	2.702	1	.100		
Likelihood Ratio	3.108	1	.078		
Fisher's Exact Test				.080	.050
N of Valid Cases	293				

a Computed only for a 2x2 table

b 0 cells (.0%) have expected count less than 5. The minimum expected count is 64.51.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.103	.078
	Cramer's V	.103	.078
	Contingency Coefficient	.102	.078

N of Valid Cases	293	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q4CPMTCT * Q16ACAMP

Crosstab

			Q16ACAMP		
			Westville	Howard College	Total
Q4CPMTCT	Yes	Count	128	112	240
		Expected Count	125.3	114.7	240.0
		% within Q16ACAMP	83.7%	80.0%	81.9%
	No	Count	25	28	53
		Expected Count	27.7	25.3	53.0
		% within Q16ACAMP	16.3%	20.0%	18.1%
Total		Count	153	140	293
		Expected Count	153.0	140.0	293.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.661(b)	1	.416		
Continuity Correction(a)	.437	1	.509		
Likelihood Ratio	.660	1	.416		
Fisher's Exact Test				.450	.254
N of Valid Cases	293				

a Computed only for a 2x2 table

b 0 cells (.0%) have expected count less than 5. The minimum expected count is 25.32.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.047	.416
	Cramer's V	.047	.416
	Contingency Coefficient	.047	.416
N of Valid Cases		293	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q4DTREAT * Q16ACAMP

Crosstab

			Q16ACAMP		
			Westville	Howard College	Total
Q4DTREAT	Yes	Count	105	103	208
		Expected Count	108.6	99.4	208.0
		% within Q16ACAMP	68.6%	73.6%	71.0%
	No	Count	48	37	85
		Expected Count	44.4	40.6	85.0
		% within Q16ACAMP	31.4%	26.4%	29.0%
Total		Count	153	140	293
		Expected Count	153.0	140.0	293.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.868(b)	1	.352		
Continuity Correction(a)	.644	1	.422		
Likelihood Ratio	.870	1	.351		
Fisher's Exact Test				.370	.211
N of Valid Cases	293				

a Computed only for a 2x2 table

b 0 cells (.0%) have expected count less than 5. The minimum expected count is 40.61.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.054	.352
	Cramer's V	.054	.352
	Contingency Coefficient	.054	.352
N of Valid Cases		293	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q4EOTHER * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q4EOTHER	Yes	Count	0	2	2
		Expected Count	1.0	1.0	2.0
		% within Q16ACAMP	.0%	1.4%	.7%
	No	Count	153	138	291
		Expected Count	152.0	139.0	291.0
		% within Q16ACAMP	100.0%	98.6%	99.3%
Total		Count	153	140	293
		Expected Count	153.0	140.0	293.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.201(b)	1	.138		
Continuity Correction(a)	.598	1	.439		
Likelihood Ratio	2.969	1	.085		
Fisher's Exact Test				.227	.227
N of Valid Cases	293				

a Computed only for a 2x2 table

b 2 cells (50.0%) have expected count less than 5. The minimum expected count is .96.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.087	.138
	Cramer's V	.087	.138
	Contingency Coefficient	.086	.138
N of Valid Cases		293	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Knowledge about antiretrovirals and access (Question 8)

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q8ACURE * Q16DRACE	292	100.0%	0	.0%	292	100.0%
Q8BLIFE * Q16DRACE	292	100.0%	0	.0%	292	100.0%
Q8CANYBO * Q16DRACE	292	100.0%	0	.0%	292	100.0%

Q8ACURE * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q8ACURE	No Answer	Count	11	1	9	21
		Expected Count	11.2	2.6	7.2	21.0
		% within Q16DRACE	7.1%	2.8%	9.0%	7.2%
	True	Count	12	0	7	19
		Expected Count	10.2	2.3	6.5	19.0
		% within Q16DRACE	7.7%	.0%	7.0%	6.5%
	False	Count	133	35	84	252
		Expected Count	134.6	31.1	86.3	252.0
		% within Q16DRACE	85.3%	97.2%	84.0%	86.3%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.730(a)	4	.316
Likelihood Ratio	7.300	4	.121

N of Valid Cases	292		
a 2 cells (22.2%) have expected count less than 5. The minimum expected count is 2.34.			

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.127	.316
	Cramer's V	.090	.316
	Contingency Coefficient	.126	.316
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q8BLIFE * Q16DRACE

Crosstab

			Q16DRACE			Total
			Black	White	Indian	
Q8BLIFE	No Answer	Count	14	1	10	25
		Expected Count	13.4	3.1	8.6	25.0
		% within Q16DRACE	9.0%	2.8%	10.0%	8.6%
	True	Count	126	29	76	231
		Expected Count	123.4	28.5	79.1	231.0
		% within Q16DRACE	80.8%	80.6%	76.0%	79.1%
	False	Count	16	6	14	36
		Expected Count	19.2	4.4	12.3	36.0
		% within Q16DRACE	10.3%	16.7%	14.0%	12.3%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.185(a)	4	.527
Likelihood Ratio	3.648	4	.456

N of Valid Cases	292		
a 2 cells (22.2%) have expected count less than 5. The minimum expected count is 3.08.			

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.104	.527
	Cramer's V	.074	.527
	Contingency Coefficient	.104	.527
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q8CANYBO * Q16DRACE

Crosstab

			Q16DRACE			Total
			Black	White	Indian	
Q8CANYBO	No Answer	Count	18	2	14	34
		Expected Count	18.2	4.2	11.6	34.0
		% within Q16DRACE	11.5%	5.6%	14.0%	11.6%
	True	Count	26	7	10	43
		Expected Count	23.0	5.3	14.7	43.0
		% within Q16DRACE	16.7%	19.4%	10.0%	14.7%
	False	Count	112	27	76	215
		Expected Count	114.9	26.5	73.6	215.0
		% within Q16DRACE	71.8%	75.0%	76.0%	73.6%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.241(a)	4	.374
Likelihood Ratio	4.617	4	.329

N of Valid Cases	292		
a 1 cells (11.1%) have expected count less than 5. The minimum expected count is 4.19.			

Symmetric Measures			
		Value	Approx. Sig.
Nominal by Nominal	Phi	.121	.374
	Cramer's V	.085	.374
	Contingency Coefficient	.120	.374
N of Valid Cases		292	
a Not assuming the null hypothesis.			
b Using the asymptotic standard error assuming the null hypothesis.			

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q8ACURE * Q16ACAMP	302	100.0%	0	.0%	302	100.0%
Q8BLIFE * Q16ACAMP	302	100.0%	0	.0%	302	100.0%
Q8CANYBO * Q16ACAMP	302	100.0%	0	.0%	302	100.0%

Q8ACURE * Q16ACAMP

Crosstab					
			Q16ACAMP		
			Westville	Howard College	Total
Q8ACURE	No Answer	Count	16	5	21
		Expected Count	11.1	9.9	21.0
		% within Q16ACAMP	10.0%	3.5%	7.0%
	True	Count	12	9	21
		Expected Count	11.1	9.9	21.0
		% within Q16ACAMP	7.5%	6.3%	7.0%
	False	Count	132	128	260
		Expected Count	137.7	122.3	260.0
		% within Q16ACAMP	82.5%	90.1%	86.1%

Total	Count	160	142	302
	Expected Count	160.0	142.0	302.0
	% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.198(a)	2	.074
Likelihood Ratio	5.478	2	.065
N of Valid Cases	302		
a 0 cells (.0%) have expected count less than 5. The minimum expected count is 9.87.			

Symmetric Measures			
		Value	Approx. Sig.
Nominal by Nominal	Phi	.131	.074
	Cramer's V	.131	.074
	Contingency Coefficient	.130	.074
N of Valid Cases		302	
a Not assuming the null hypothesis.			
b Using the asymptotic standard error assuming the null hypothesis.			

Q8BLIFE * Q16ACAMP

Crosstab					
			Q16ACAMP		
			Westville	Howard College	Total
Q8BLIFE	No Answer	Count	15	10	25
		Expected Count	13.2	11.8	25.0
		% within Q16ACAMP	9.4%	7.0%	8.3%
	True	Count	127	113	240
		Expected Count	127.2	112.8	240.0
		% within Q16ACAMP	79.4%	79.6%	79.5%
	False	Count	18	19	37
		Expected Count	19.6	17.4	37.0
		% within Q16ACAMP	11.3%	13.4%	12.3%

Total	Count	160	142	302
	Expected Count	160.0	142.0	302.0
	% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.774(a)	2	.679
Likelihood Ratio	.777	2	.678
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.75.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.051	.679
	Cramer's V	.051	.679
	Contingency Coefficient	.051	.679
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q8CANYBO * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q8CANYBO	No Answer	Count	20	14	34
		Expected Count	18.0	16.0	34.0
		% within Q16ACAMP	12.5%	9.9%	11.3%
	True	Count	24	20	44
		Expected Count	23.3	20.7	44.0
		% within Q16ACAMP	15.0%	14.1%	14.6%
	False	Count	116	108	224
		Expected Count	118.7	105.3	224.0
		% within Q16ACAMP	72.5%	76.1%	74.2%

Total	Count	160	142	302
	Expected Count	160.0	142.0	302.0
	% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.638(a)	2	.727
Likelihood Ratio	.641	2	.726
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 15.99.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.046	.727
	Cramer's V	.046	.727
	Contingency Coefficient	.046	.727
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Beliefs about the benefits of antiretrovirals (Question 5)

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q5ABIOL * Q16DRACE	292	100.0%	0	.0%	292	100.0%
Q5BSOCIA * Q16DRACE	292	100.0%	0	.0%	292	100.0%
Q5CINCOR * Q16DRACE	292	100.0%	0	.0%	292	100.0%
Q5DOTHER * Q16DRACE	292	100.0%	0	.0%	292	100.0%

Q5ABIOL * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q5ABIOL	No Answer	Count	25	1	27	53
		Expected Count	28.3	6.5	18.2	53.0
		% within Q16DRACE	16.0%	2.8%	27.0%	18.2%
	Yes	Count	100	25	60	185
		Expected Count	98.8	22.8	63.4	185.0
		% within Q16DRACE	64.1%	69.4%	60.0%	63.4%
	No	Count	31	10	13	54
		Expected Count	28.8	6.7	18.5	54.0
		% within Q16DRACE	19.9%	27.8%	13.0%	18.5%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.262(a)	4	.010
Likelihood Ratio	15.295	4	.004
N of Valid Cases	292		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.53.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.213	.010
	Cramer's V	.151	.010
	Contingency Coefficient	.208	.010
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q5BSOCIA * Q16DRACE

Crosstab

			Q16DRACE			Total
			Black	White	Indian	
Q5BSOCIA	No Answer	Count	25	1	27	53
		Expected Count	28.3	6.5	18.2	53.0
		% within Q16DRACE	16.0%	2.8%	27.0%	18.2%
	Yes	Count	7	2	6	15
		Expected Count	8.0	1.8	5.1	15.0
		% within Q16DRACE	4.5%	5.6%	6.0%	5.1%
	No	Count	124	33	67	224
		Expected Count	119.7	27.6	76.7	224.0
		% within Q16DRACE	79.5%	91.7%	67.0%	76.7%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.111(a)	4	.017
Likelihood Ratio	14.175	4	.007
N of Valid Cases	292		

a 1 cells (11.1%) have expected count less than 5. The minimum expected count is 1.85.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.204	.017
	Cramer's V	.144	.017
	Contingency Coefficient	.200	.017
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q5CINCOR * Q16DRACE

Crosstab

			Q16DRACE			Total
			Black	White	Indian	

Q5CINCOR	No Answer	Count	25	1	27	53
		Expected Count	28.3	6.5	18.2	53.0
		% within Q16DRACE	16.0%	2.8%	27.0%	18.2%
	Yes	Count	30	13	20	63
		Expected Count	33.7	7.8	21.6	63.0
		% within Q16DRACE	19.2%	36.1%	20.0%	21.6%
	No	Count	101	22	53	176
		Expected Count	94.0	21.7	60.3	176.0
		% within Q16DRACE	64.7%	61.1%	53.0%	60.3%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.827(a)	4	.005
Likelihood Ratio	16.345	4	.003
N of Valid Cases	292		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.53.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.225	.005
	Cramer's V	.159	.005
	Contingency Coefficient	.220	.005
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q5DOTHER * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total

Q5DOTHER	No Answer	Count	25	1	27	53
		Expected Count	28.3	6.5	18.2	53.0
		% within Q16DRACE	16.0%	2.8%	27.0%	18.2%
	No	Count	131	35	73	239
		Expected Count	127.7	29.5	81.8	239.0
		% within Q16DRACE	84.0%	97.2%	73.0%	81.8%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.472(a)	2	.003
Likelihood Ratio	13.523	2	.001
N of Valid Cases	292		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.53.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.198	.003
	Cramer's V	.198	.003
	Contingency Coefficient	.194	.003
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q5ABIOL * Q16ACAMP	302	100.0%	0	.0%	302	100.0%
Q5BSOCIA * Q16ACAMP	302	100.0%	0	.0%	302	100.0%
Q5CINCOR * Q16ACAMP	302	100.0%	0	.0%	302	100.0%
Q5DOTHER * Q16ACAMP	302	100.0%	0	.0%	302	100.0%

Q5ABIOL * Q16ACAMP

Crosstab

			Q16ACAMP		
			Westville	Howard College	Total
Q5ABIOL	No Answer	Count	33	20	53
		Expected Count	28.1	24.9	53.0
		% within Q16ACAMP	20.6%	14.1%	17.5%
	Yes	Count	94	100	194
		Expected Count	102.8	91.2	194.0
		% within Q16ACAMP	58.8%	70.4%	64.2%
	No	Count	33	22	55
		Expected Count	29.1	25.9	55.0
		% within Q16ACAMP	20.6%	15.5%	18.2%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.517(a)	2	.104
Likelihood Ratio	4.548	2	.103
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 24.92.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.122	.104
	Cramer's V	.122	.104
	Contingency Coefficient	.121	.104
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q5BSOCIA * Q16ACAMP

Crosstab

			Q16ACAMP		
			Westville	Howard College	Total
Q5BSOCIA	No Answer	Count	33	20	53
		Expected Count	28.1	24.9	53.0
		% within Q16ACAMP	20.6%	14.1%	17.5%
	Yes	Count	13	3	16
		Expected Count	8.5	7.5	16.0
		% within Q16ACAMP	8.1%	2.1%	5.3%
	No	Count	114	119	233
		Expected Count	123.4	109.6	233.0
		% within Q16ACAMP	71.3%	83.8%	77.2%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.503(a)	2	.014
Likelihood Ratio	8.993	2	.011
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.52.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.168	.014
	Cramer's V	.168	.014
	Contingency Coefficient	.165	.014
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q5CINCOR * Q16ACAMP

Crosstab

			Q16ACAMP	Total

			Westville	Howard College	
Q5CINCOR	No Answer	Count	33	20	53
		Expected Count	28.1	24.9	53.0
		% within Q16ACAMP	20.6%	14.1%	17.5%
	Yes	Count	34	32	66
		Expected Count	35.0	31.0	66.0
		% within Q16ACAMP	21.3%	22.5%	21.9%
	No	Count	93	90	183
		Expected Count	97.0	86.0	183.0
		% within Q16ACAMP	58.1%	63.4%	60.6%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.234(a)	2	.327
Likelihood Ratio	2.258	2	.323
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 24.92.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.086	.327
	Cramer's V	.086	.327
	Contingency Coefficient	.086	.327
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q5DOTHER * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	

Q5DOTHER	No Answer	Count	33	20	53
		Expected Count	28.1	24.9	53.0
		% within Q16ACAMP	20.6%	14.1%	17.5%
	No	Count	127	122	249
		Expected Count	131.9	117.1	249.0
		% within Q16ACAMP	79.4%	85.9%	82.5%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.224(b)	1	.136		
Continuity Correction(a)	1.795	1	.180		
Likelihood Ratio	2.248	1	.134		
Fisher's Exact Test				.172	.090
N of Valid Cases	302				

a Computed only for a 2x2 table

b 0 cells (.0%) have expected count less than 5. The minimum expected count is 24.92.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.086	.136
	Cramer's V	.086	.136
	Contingency Coefficient	.086	.136
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Beliefs about the disadvantages of antiretrovirals (Question 6)

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent

Q6ASIDEF * Q16DRACE	292	100.0%	0	.0%	292	100.0%
Q6BLIFE * Q16DRACE	292	100.0%	0	.0%	292	100.0%
Q6CSEX * Q16DRACE	292	100.0%	0	.0%	292	100.0%
Q6DADHER * Q16DRACE	292	100.0%	0	.0%	292	100.0%
Q6EACCES * Q16DRACE	292	100.0%	0	.0%	292	100.0%
Q6FINCOR * Q16DRACE	292	100.0%	0	.0%	292	100.0%
Q6GOTHER * Q16DRACE	292	100.0%	0	.0%	292	100.0%

Q6ASIDEF * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q6ASIDEF	No Answer	Count	38	9	54	101
		Expected Count	54.0	12.5	34.6	101.0
		% within Q16DRACE	24.4%	25.0%	54.0%	34.6%
	Yes	Count	34	5	12	51
		Expected Count	27.2	6.3	17.5	51.0
		% within Q16DRACE	21.8%	13.9%	12.0%	17.5%
	No	Count	84	22	34	140
		Expected Count	74.8	17.3	47.9	140.0
		% within Q16DRACE	53.8%	61.1%	34.0%	47.9%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	26.709(a)	4	.000
Likelihood Ratio	26.178	4	.000
N of Valid Cases	292		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.29.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.302	.000
	Cramer's V	.214	.000
	Contingency Coefficient	.289	.000
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q6BLIFE * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q6BLIFE	No Answer	Count	38	9	54	101
		Expected Count	54.0	12.5	34.6	101.0
		% within Q16DRACE	24.4%	25.0%	54.0%	34.6%
	Yes	Count	21	2	5	28
		Expected Count	15.0	3.5	9.6	28.0
		% within Q16DRACE	13.5%	5.6%	5.0%	9.6%
	No	Count	97	25	41	163
		Expected Count	87.1	20.1	55.8	163.0
		% within Q16DRACE	62.2%	69.4%	41.0%	55.8%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	28.079(a)	4	.000
Likelihood Ratio	27.706	4	.000
N of Valid Cases	292		

a 1 cells (11.1%) have expected count less than 5. The minimum expected count is 3.45.

Symmetric Measures			
		Value	Approx. Sig.
Nominal by Nominal	Phi	.310	.000
	Cramer's V	.219	.000
	Contingency Coefficient	.296	.000
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q6CSEX * Q16DRACE

Crosstab						
			Q16DRACE			Total
			Black	White	Indian	
Q6CSEX	No Answer	Count	38	9	54	101
		Expected Count	54.0	12.5	34.6	101.0
		% within Q16DRACE	24.4%	25.0%	54.0%	34.6%
	Yes	Count	9	3	1	13
		Expected Count	6.9	1.6	4.5	13.0
		% within Q16DRACE	5.8%	8.3%	1.0%	4.5%
	No	Count	109	24	45	178
		Expected Count	95.1	21.9	61.0	178.0
		% within Q16DRACE	69.9%	66.7%	45.0%	61.0%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	27.476(a)	4	.000
Likelihood Ratio	27.782	4	.000
N of Valid Cases	292		

a 2 cells (22.2%) have expected count less than 5. The minimum expected count is 1.60.

Symmetric Measures			
		Value	Approx. Sig.
Nominal by Nominal	Phi	.307	.000
	Cramer's V	.217	.000
	Contingency Coefficient	.293	.000
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q6DADHER * Q16DRACE

Crosstab						
			Q16DRACE			Total
			Black	White	Indian	
Q6DADHER	No Answer	Count	38	9	54	101
		Expected Count	54.0	12.5	34.6	101.0
		% within Q16DRACE	24.4%	25.0%	54.0%	34.6%
	Yes	Count	21	3	4	28
		Expected Count	15.0	3.5	9.6	28.0
		% within Q16DRACE	13.5%	8.3%	4.0%	9.6%
	No	Count	97	24	42	163
		Expected Count	87.1	20.1	55.8	163.0
		% within Q16DRACE	62.2%	66.7%	42.0%	55.8%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	27.637(a)	4	.000
Likelihood Ratio	27.575	4	.000
N of Valid Cases	292		

a 1 cells (11.1%) have expected count less than 5. The minimum expected count is 3.45.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.308	.000
	Cramer's V	.218	.000
	Contingency Coefficient	.294	.000
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q6EACCES * Q16DRACE

Crosstab

			Q16DRACE			Total
			Black	White	Indian	
Q6EACCES	No Answer	Count	38	9	54	101
		Expected Count	54.0	12.5	34.6	101.0
		% within Q16DRACE	24.4%	25.0%	54.0%	34.6%
	Yes	Count	21	15	16	52
		Expected Count	27.8	6.4	17.8	52.0
		% within Q16DRACE	13.5%	41.7%	16.0%	17.8%
	No	Count	97	12	30	139
		Expected Count	74.3	17.1	47.6	139.0
		% within Q16DRACE	62.2%	33.3%	30.0%	47.6%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	44.928(a)	4	.000
Likelihood Ratio	41.509	4	.000

N of Valid Cases	292	

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.41.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.392	.000
	Cramer's V	.277	.000
	Contingency Coefficient	.365	.000
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q6FINCOR * Q16DRACE

Crosstab

			Q16DRACE			Total
			Black	White	Indian	
Q6FINCOR	No Answer	Count	38	9	54	101
		Expected Count	54.0	12.5	34.6	101.0
		% within Q16DRACE	24.4%	25.0%	54.0%	34.6%
	Yes	Count	12	0	1	13
		Expected Count	6.9	1.6	4.5	13.0
		% within Q16DRACE	7.7%	.0%	1.0%	4.5%
	No	Count	106	27	45	178
		Expected Count	95.1	21.9	61.0	178.0
		% within Q16DRACE	67.9%	75.0%	45.0%	61.0%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	31.121(a)	4	.000
Likelihood Ratio	32.642	4	.000

N of Valid Cases	292		

a 2 cells (22.2%) have expected count less than 5. The minimum expected count is 1.60.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.326	.000
	Cramer's V	.231	.000
	Contingency Coefficient	.310	.000
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q6GOTHER * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q6GOTHER	No Answer	Count	38	9	54	101
		Expected Count	54.0	12.5	34.6	101.0
		% within Q16DRACE	24.4%	25.0%	54.0%	34.6%
	Yes	Count	29	5	16	50
		Expected Count	26.7	6.2	17.1	50.0
		% within Q16DRACE	18.6%	13.9%	16.0%	17.1%
	No	Count	89	22	30	141
		Expected Count	75.3	17.4	48.3	141.0
		% within Q16DRACE	57.1%	61.1%	30.0%	48.3%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	27.693(a)	4	.000
Likelihood Ratio	27.607	4	.000

N of Valid Cases	292		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.16.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.308	.000
	Cramer's V	.218	.000
	Contingency Coefficient	.294	.000
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q6ASIDEF * Q16ACAMP	302	100.0%	0	.0%	302	100.0%
Q6BLIFE * Q16ACAMP	302	100.0%	0	.0%	302	100.0%
Q6CSEX * Q16ACAMP	302	100.0%	0	.0%	302	100.0%
Q6DADHER * Q16ACAMP	302	100.0%	0	.0%	302	100.0%
Q6EACCES * Q16ACAMP	302	100.0%	0	.0%	302	100.0%
Q6FINCOR * Q16ACAMP	302	100.0%	0	.0%	302	100.0%
Q6GOTHER * Q16ACAMP	302	100.0%	0	.0%	302	100.0%

Q6ASIDEF * Q16ACAMP

Crosstab

			Q16ACAMP		
			Westville	Howard College	Total
Q6ASIDEF	No Answer	Count	51	54	105
		Expected Count	55.6	49.4	105.0
		% within Q16ACAMP	31.9%	38.0%	34.8%
	Yes	Count	25	29	54

		Expected Count	28.6	25.4	54.0
		% within Q16ACAMP	15.6%	20.4%	17.9%
	No	Count	84	59	143
		Expected Count	75.8	67.2	143.0
		% within Q16ACAMP	52.5%	41.5%	47.4%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.693(a)	2	.158
Likelihood Ratio	3.702	2	.157
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 25.39.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.111	.158
	Cramer's V	.111	.158
	Contingency Coefficient	.110	.158
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q6BLIFE * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q6BLIFE	No Answer	Count	51	54	105
		Expected Count	55.6	49.4	105.0
		% within Q16ACAMP	31.9%	38.0%	34.8%
	Yes	Count	18	10	28
		Expected Count	14.8	13.2	28.0

		% within Q16ACAMP	11.3%	7.0%	9.3%
	No	Count	91	78	169
		Expected Count	89.5	79.5	169.0
		% within Q16ACAMP	56.9%	54.9%	56.0%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.307(a)	2	.316
Likelihood Ratio	2.331	2	.312
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 13.17.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.087	.316
	Cramer's V	.087	.316
	Contingency Coefficient	.087	.316
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q6CSEX * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q6CSEX	No Answer	Count	51	54	105
		Expected Count	55.6	49.4	105.0
		% within Q16ACAMP	31.9%	38.0%	34.8%
	Yes	Count	8	5	13
		Expected Count	6.9	6.1	13.0

		% within Q16ACAMP	5.0%	3.5%	4.3%
	No	Count	101	83	184
		Expected Count	97.5	86.5	184.0
		% within Q16ACAMP	63.1%	58.5%	60.9%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.471(a)	2	.479
Likelihood Ratio	1.475	2	.478
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.11.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.070	.479
	Cramer's V	.070	.479
	Contingency Coefficient	.070	.479
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q6DADHER * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q6DADHER	No Answer	Count	51	54	105
		Expected Count	55.6	49.4	105.0
		% within Q16ACAMP	31.9%	38.0%	34.8%
	Yes	Count	21	10	31
		Expected Count	16.4	14.6	31.0

		% within Q16ACAMP	13.1%	7.0%	10.3%
	No	Count	88	78	166
		Expected Count	87.9	78.1	166.0
		% within Q16ACAMP	55.0%	54.9%	55.0%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.531(a)	2	.171
Likelihood Ratio	3.605	2	.165
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 14.58.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.108	.171
	Cramer's V	.108	.171
	Contingency Coefficient	.108	.171
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q6EACCES * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q6EACCES	No Answer	Count	51	54	105
		Expected Count	55.6	49.4	105.0
		% within Q16ACAMP	31.9%	38.0%	34.8%
	Yes	Count	23	30	53
		Expected Count	28.1	24.9	53.0

		% within Q16ACAMP	14.4%	21.1%	17.5%
	No	Count	86	58	144
		Expected Count	76.3	67.7	144.0
		% within Q16ACAMP	53.8%	40.8%	47.7%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.401(a)	2	.067
Likelihood Ratio	5.419	2	.067
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 24.92.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.134	.067
	Cramer's V	.134	.067
	Contingency Coefficient	.133	.067
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q6FINCOR * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q6FINCOR	No Answer	Count	51	54	105
		Expected Count	55.6	49.4	105.0
		% within Q16ACAMP	31.9%	38.0%	34.8%
	Yes	Count	7	6	13
		Expected Count	6.9	6.1	13.0

		% within Q16ACAMP	4.4%	4.2%	4.3%
	No	Count	102	82	184
		Expected Count	97.5	86.5	184.0
		% within Q16ACAMP	63.8%	57.7%	60.9%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.268(a)	2	.530
Likelihood Ratio	1.267	2	.531
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.11.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.065	.530
	Cramer's V	.065	.530
	Contingency Coefficient	.065	.530
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q6GOTHER * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q6GOTHER	No Answer	Count	51	54	105
		Expected Count	55.6	49.4	105.0
		% within Q16ACAMP	31.9%	38.0%	34.8%
	Yes	Count	33	19	52
		Expected Count	27.5	24.5	52.0

		% within Q16ACAMP	20.6%	13.4%	17.2%
	No	Count	76	69	145
		Expected Count	76.8	68.2	145.0
		% within Q16ACAMP	47.5%	48.6%	48.0%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.131(a)	2	.209
Likelihood Ratio	3.166	2	.205
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 24.45.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.102	.209
	Cramer's V	.102	.209
	Contingency Coefficient	.101	.209
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Beliefs about other options to treat HIV/Aids (Question 7)

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q7ASAFSE * Q16DRACE	292	100.0%	0	.0%	292	100.0%
Q7BEXERC * Q16DRACE	292	100.0%	0	.0%	292	100.0%
Q7CEAT * Q16DRACE	292	100.0%	0	.0%	292	100.0%
Q7DALT * Q16DRACE	292	100.0%	0	.0%	292	100.0%
Q7EINCOR * Q16DRACE	292	100.0%	0	.0%	292	100.0%

Q7FOTHER * Q16DRACE	292	100.0%	0	.0%	292	100.0%
Q7GNONE * Q16DRACE	292	100.0%	0	.0%	292	100.0%

Q7ASAFSE * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q7ASAFSE	No Answer	Count	36	13	44	93
		Expected Count	49.7	11.5	31.8	93.0
		% within Q16DRACE	23.1%	36.1%	44.0%	31.8%
	Yes	Count	38	4	13	55
		Expected Count	29.4	6.8	18.8	55.0
		% within Q16DRACE	24.4%	11.1%	13.0%	18.8%
	No	Count	82	19	43	144
		Expected Count	76.9	17.8	49.3	144.0
		% within Q16DRACE	52.6%	52.8%	43.0%	49.3%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.315(a)	4	.004
Likelihood Ratio	15.446	4	.004
N of Valid Cases	292		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.78.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.229	.004
	Cramer's V	.162	.004
	Contingency Coefficient	.223	.004
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q7BEXERC * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q7BEXERC	No Answer	Count	36	13	44	93
		Expected Count	49.7	11.5	31.8	93.0
		% within Q16DRACE	23.1%	36.1%	44.0%	31.8%
	Yes	Count	27	1	4	32
		Expected Count	17.1	3.9	11.0	32.0
		% within Q16DRACE	17.3%	2.8%	4.0%	11.0%
	No	Count	93	22	52	167
		Expected Count	89.2	20.6	57.2	167.0
		% within Q16DRACE	59.6%	61.1%	52.0%	57.2%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21.694(a)	4	.000
Likelihood Ratio	23.116	4	.000
N of Valid Cases	292		

a 1 cells (11.1%) have expected count less than 5. The minimum expected count is 3.95.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.273	.000
	Cramer's V	.193	.000
	Contingency Coefficient	.263	.000
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q7CEAT * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q7CEAT	No Answer	Count	36	13	44	93
		Expected Count	49.7	11.5	31.8	93.0
		% within Q16DRACE	23.1%	36.1%	44.0%	31.8%
	Yes	Count	46	4	6	56
		Expected Count	29.9	6.9	19.2	56.0
		% within Q16DRACE	29.5%	11.1%	6.0%	19.2%
	No	Count	74	19	50	143
		Expected Count	76.4	17.6	49.0	143.0
		% within Q16DRACE	47.4%	52.8%	50.0%	49.0%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	27.735(a)	4	.000
Likelihood Ratio	29.975	4	.000
N of Valid Cases	292		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.90.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.308	.000
	Cramer's V	.218	.000
	Contingency Coefficient	.295	.000
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q7DALT * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q7DALT	No Answer	Count	36	13	44	93
		Expected Count	49.7	11.5	31.8	93.0
		% within Q16DRACE	23.1%	36.1%	44.0%	31.8%
	Yes	Count	13	1	2	16
		Expected Count	8.5	2.0	5.5	16.0
		% within Q16DRACE	8.3%	2.8%	2.0%	5.5%
	No	Count	107	22	54	183
		Expected Count	97.8	22.6	62.7	183.0
		% within Q16DRACE	68.6%	61.1%	54.0%	62.7%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.704(a)	4	.003
Likelihood Ratio	16.137	4	.003
N of Valid Cases	292		

a 1 cells (11.1%) have expected count less than 5. The minimum expected count is 1.97.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.232	.003
	Cramer's V	.164	.003
	Contingency Coefficient	.226	.003
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q7EINCOR * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q7EINCOR	No Answer	Count	36	13	44	93
		Expected Count	49.7	11.5	31.8	93.0
		% within Q16DRACE	23.1%	36.1%	44.0%	31.8%
	Yes	Count	1	0	2	3
		Expected Count	1.6	.4	1.0	3.0
		% within Q16DRACE	.6%	.0%	2.0%	1.0%
	No	Count	119	23	54	196
		Expected Count	104.7	24.2	67.1	196.0
		% within Q16DRACE	76.3%	63.9%	54.0%	67.1%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.699(a)	4	.005
Likelihood Ratio	14.903	4	.005
N of Valid Cases	292		

a 3 cells (33.3%) have expected count less than 5. The minimum expected count is .37.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.224	.005
	Cramer's V	.159	.005
	Contingency Coefficient	.219	.005
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q7FOTHER * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q7FOTHER	No Answer	Count	36	13	44	93
		Expected Count	49.7	11.5	31.8	93.0
		% within Q16DRACE	23.1%	36.1%	44.0%	31.8%
	Yes	Count	26	4	13	43
		Expected Count	23.0	5.3	14.7	43.0
		% within Q16DRACE	16.7%	11.1%	13.0%	14.7%
	No	Count	94	19	43	156
		Expected Count	83.3	19.2	53.4	156.0
		% within Q16DRACE	60.3%	52.8%	43.0%	53.4%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.931(a)	4	.012
Likelihood Ratio	12.942	4	.012
N of Valid Cases	292		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.30.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.210	.012
	Cramer's V	.149	.012
	Contingency Coefficient	.206	.012
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q7GNONE * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q7GNONE	No Answer	Count	36	13	44	93
		Expected Count	49.7	11.5	31.8	93.0
		% within Q16DRACE	23.1%	36.1%	44.0%	31.8%
	Yes	Count	40	18	29	87
		Expected Count	46.5	10.7	29.8	87.0
		% within Q16DRACE	25.6%	50.0%	29.0%	29.8%
	No	Count	80	5	27	112
		Expected Count	59.8	13.8	38.4	112.0
		% within Q16DRACE	51.3%	13.9%	27.0%	38.4%
Total		Count	156	36	100	292
		Expected Count	156.0	36.0	100.0	292.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	30.244(a)	4	.000
Likelihood Ratio	30.918	4	.000
N of Valid Cases	292		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.73.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.322	.000
	Cramer's V	.228	.000
	Contingency Coefficient	.306	.000
N of Valid Cases		292	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Case Processing Summary

	Cases

	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q7ASAFSE * Q16ACAMP	302	100.0%	0	.0%	302	100.0%
Q7BEXERC * Q16ACAMP	302	100.0%	0	.0%	302	100.0%
Q7CEAT * Q16ACAMP	302	100.0%	0	.0%	302	100.0%
Q7DALT * Q16ACAMP	302	100.0%	0	.0%	302	100.0%
Q7EINCOR * Q16ACAMP	302	100.0%	0	.0%	302	100.0%
Q7FOTHER * Q16ACAMP	302	100.0%	0	.0%	302	100.0%
Q7GNONE * Q16ACAMP	302	100.0%	0	.0%	302	100.0%

Q7ASAFSE * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q7ASAFSE	No Answer	Count	52	46	98
		Expected Count	51.9	46.1	98.0
		% within Q16ACAMP	32.5%	32.4%	32.5%
	Yes	Count	32	23	55
		Expected Count	29.1	25.9	55.0
		% within Q16ACAMP	20.0%	16.2%	18.2%
	No	Count	76	73	149
		Expected Count	78.9	70.1	149.0
		% within Q16ACAMP	47.5%	51.4%	49.3%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.831(a)	2	.660
Likelihood Ratio	.834	2	.659
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 25.86.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.052	.660
	Cramer's V	.052	.660
	Contingency Coefficient	.052	.660
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q7BEXERC * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q7BEXERC	No Answer	Count	52	46	98
		Expected Count	51.9	46.1	98.0
		% within Q16ACAMP	32.5%	32.4%	32.5%
	Yes	Count	20	13	33
		Expected Count	17.5	15.5	33.0
		% within Q16ACAMP	12.5%	9.2%	10.9%
	No	Count	88	83	171
		Expected Count	90.6	80.4	171.0
		% within Q16ACAMP	55.0%	58.5%	56.6%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.929(a)	2	.628
Likelihood Ratio	.937	2	.626
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 15.52.

Symmetric Measures

		Value	Approx. Sig.

Nominal by Nominal	Phi	.055	.628
	Cramer's V	.055	.628
	Contingency Coefficient	.055	.628
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q7CEAT * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q7CEAT	No Answer	Count	52	46	98
		Expected Count	51.9	46.1	98.0
		% within Q16ACAMP	32.5%	32.4%	32.5%
	Yes	Count	30	28	58
		Expected Count	30.7	27.3	58.0
		% within Q16ACAMP	18.8%	19.7%	19.2%
	No	Count	78	68	146
		Expected Count	77.4	68.6	146.0
		% within Q16ACAMP	48.8%	47.9%	48.3%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.049(a)	2	.976
Likelihood Ratio	.049	2	.976
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 27.27.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.013	.976
	Cramer's V	.013	.976
	Contingency Coefficient	.013	.976
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q7DALT * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q7DALT	No Answer	Count	52	46	98
		Expected Count	51.9	46.1	98.0
		% within Q16ACAMP	32.5%	32.4%	32.5%
	Yes	Count	13	6	19
		Expected Count	10.1	8.9	19.0
		% within Q16ACAMP	8.1%	4.2%	6.3%
	No	Count	95	90	185
		Expected Count	98.0	87.0	185.0
		% within Q16ACAMP	59.4%	63.4%	61.3%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.016(a)	2	.365
Likelihood Ratio	2.070	2	.355
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.93.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.082	.365
	Cramer's V	.082	.365

	Contingency Coefficient	.081	.365
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q7EINCOR * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q7EINCOR	No Answer	Count	52	46	98
		Expected Count	51.9	46.1	98.0
		% within Q16ACAMP	32.5%	32.4%	32.5%
	Yes	Count	2	1	3
		Expected Count	1.6	1.4	3.0
		% within Q16ACAMP	1.3%	.7%	1.0%
	No	Count	106	95	201
		Expected Count	106.5	94.5	201.0
		% within Q16ACAMP	66.3%	66.9%	66.6%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.231(a)	2	.891
Likelihood Ratio	.236	2	.889
N of Valid Cases	302		

a 2 cells (33.3%) have expected count less than 5. The minimum expected count is 1.41.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.028	.891
	Cramer's V	.028	.891
	Contingency Coefficient	.028	.891

N of Valid Cases	302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q7FOTHER * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q7FOTHER	No Answer	Count	52	46	98
		Expected Count	51.9	46.1	98.0
		% within Q16ACAMP	32.5%	32.4%	32.5%
	Yes	Count	27	18	45
		Expected Count	23.8	21.2	45.0
		% within Q16ACAMP	16.9%	12.7%	14.9%
	No	Count	81	78	159
		Expected Count	84.2	74.8	159.0
		% within Q16ACAMP	50.6%	54.9%	52.6%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.155(a)	2	.561
Likelihood Ratio	1.163	2	.559
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 21.16.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.062	.561
	Cramer's V	.062	.561
	Contingency Coefficient	.062	.561
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q7GNONE * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q7GNONE	No Answer	Count	52	46	98
		Expected Count	51.9	46.1	98.0
		% within Q16ACAMP	32.5%	32.4%	32.5%
	Yes	Count	37	51	88
		Expected Count	46.6	41.4	88.0
		% within Q16ACAMP	23.1%	35.9%	29.1%
	No	Count	71	45	116
		Expected Count	61.5	54.5	116.0
		% within Q16ACAMP	44.4%	31.7%	38.4%
Total		Count	160	142	302
		Expected Count	160.0	142.0	302.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.376(a)	2	.025
Likelihood Ratio	7.408	2	.025
N of Valid Cases	302		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 41.38.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.156	.025
	Cramer's V	.156	.025
	Contingency Coefficient	.154	.025
N of Valid Cases		302	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Attitude-related questions (Questions 9-13)

Kruskal-Wallis Test

Ranks

	Q16DRACE	N	Mean Rank
Q9SUPPLY	Black	156	156.97
	White	36	129.49
	Indian	100	136.29
	Total	292	
Q10SIN	Black	156	138.42
	White	36	153.68
	Indian	100	156.51
	Total	292	
Q11VCT	Black	156	139.29
	White	36	147.68
	Indian	100	157.32
	Total	292	
Q12ADVIS	Black	156	144.34
	White	36	148.26
	Indian	100	149.24
	Total	292	
Q13SUPPO	Black	156	151.13
	White	36	132.50
	Indian	100	144.31
	Total	292	

Test Statistics(a,b)

	Q9SUPPLY	Q10SIN	Q11VCT	Q12ADVIS	Q13SUPPO
Chi-Square	6.074	5.868	4.603	.280	2.083
df	2	2	2	2	2
Asymp. Sig.	.048	.053	.100	.869	.353

a Kruskal Wallis Test

b Grouping Variable: Q16DRACE

Mann-Whitney Tests (Question 9)

Ranks

	Q16DRACE	N	Mean Rank	Sum of Ranks
Q9SUPPLY	Black	156	99.95	15591.50
	White	36	81.57	2936.50
	Total	192		

Test Statistics(a)

	Q9SUPPLY
Mann-Whitney U	2270.500
Wilcoxon W	2936.500
Z	-1.932
Asymp. Sig. (2-tailed)	.053

a Grouping Variable: Q16DRACE

Ranks

	Q16DRACE	N	Mean Rank	Sum of Ranks
Q9SUPPLY	Black	156	135.53	21142.00
	Indian	100	117.54	11754.00
	Total	256		

Test Statistics(a)

	Q9SUPPLY
Mann-Whitney U	6704.000
Wilcoxon W	11754.000
Z	-2.037
Asymp. Sig. (2-tailed)	.042

a Grouping Variable: Q16DRACE

Ranks

	Q16DRACE	N	Mean Rank	Sum of Ranks
Q9SUPPLY	White	36	66.42	2391.00
	Indian	100	69.25	6925.00
	Total	136		

Test Statistics(a)

	Q9SUPPLY
Mann-Whitney U	1725.000
Wilcoxon W	2391.000
Z	-.388
Asymp. Sig. (2-tailed)	.698

a Grouping Variable: Q16DRACE

Mann-Whitney Tests

Ranks

	Q16ACAMP	N	Mean Rank	Sum of Ranks
Q9SUPPLY	Westville	160	153.11	24498.00
	Howard College	142	149.68	21255.00
	Total	302		
Q10SIN	Westville	160	146.78	23485.00
	Howard College	142	156.82	22268.00
	Total	302		
Q11VCT	Westville	160	145.20	23232.50
	Howard College	142	158.60	22520.50
	Total	302		
Q12ADVIS	Westville	160	151.33	24212.50
	Howard College	142	151.69	21540.50
	Total	302		
Q13SUPPO	Westville	160	159.03	25445.50
	Howard College	142	143.01	20307.50
	Total	302		

Test Statistics(a)

	Q9SUPPLY	Q10SIN	Q11VCT	Q12ADVIS	Q13SUPPO

Mann-Whitney U	11102.000	10605.000	10352.500	11332.500	10154.500
Wilcoxon W	21255.000	23485.000	23232.500	24212.500	20307.500
Z	-.363	-1.367	-1.701	-.041	-1.854
Asymp. Sig. (2-tailed)	.716	.172	.089	.968	.064
a Grouping Variable: Q16ACAMP					

Sources of information on antiretrovirals (Question 2)

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q2ATV * Q16DRACE	285	100.0%	0	.0%	285	100.0%
Q2BFRIEN * Q16DRACE	285	100.0%	0	.0%	285	100.0%
Q2CRADIO * Q16DRACE	285	100.0%	0	.0%	285	100.0%
Q2DBILLB * Q16DRACE	285	100.0%	0	.0%	285	100.0%
Q2EPOLIT * Q16DRACE	285	100.0%	0	.0%	285	100.0%
Q2FDOC * Q16DRACE	285	100.0%	0	.0%	285	100.0%
Q2GNEWS * Q16DRACE	285	100.0%	0	.0%	285	100.0%
Q2HPOSTE * Q16DRACE	285	100.0%	0	.0%	285	100.0%
Q2IOTHER * Q16DRACE	285	100.0%	0	.0%	285	100.0%

Q2ATV * Q16DRACE

Crosstab

			Q16DRACE			Total
			Black	White	Indian	
Q2ATV	Yes	Count	141	32	93	266
		Expected Count	142.8	32.7	90.5	266.0
		% within Q16DRACE	92.2%	91.4%	95.9%	93.3%
	No	Count	12	3	4	19
		Expected Count	10.2	2.3	6.5	19.0
		% within Q16DRACE	7.8%	8.6%	4.1%	6.7%
Total		Count	153	35	97	285
		Expected Count	153.0	35.0	97.0	285.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.553(a)	2	.460
Likelihood Ratio	1.668	2	.434
N of Valid Cases	285		
a 1 cells (16.7%) have expected count less than 5. The minimum expected count is 2.33.			

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.074	.460
	Cramer's V	.074	.460
	Contingency Coefficient	.074	.460
N of Valid Cases		285	
a Not assuming the null hypothesis.			
b Using the asymptotic standard error assuming the null hypothesis.			

Q2BFRIEN * Q16DRACE

Crosstab

			Q16DRACE			Total
			Black	White	Indian	
Q2BFRIEN	Yes	Count	92	26	48	166
		Expected Count	89.1	20.4	56.5	166.0
		% within Q16DRACE	60.1%	74.3%	49.5%	58.2%
	No	Count	61	9	49	119
		Expected Count	63.9	14.6	40.5	119.0
		% within Q16DRACE	39.9%	25.7%	50.5%	41.8%
Total		Count	153	35	97	285
		Expected Count	153.0	35.0	97.0	285.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.988(a)	2	.030

Likelihood Ratio	7.166	2	.028
N of Valid Cases	285		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 14.61.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.157	.030
	Cramer's V	.157	.030
	Contingency Coefficient	.155	.030
N of Valid Cases		285	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q2CRADIO * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q2CRADIO	Yes	Count	132	27	79	238
		Expected Count	127.8	29.2	81.0	238.0
		% within Q16DRACE	86.3%	77.1%	81.4%	83.5%
	No	Count	21	8	18	47
		Expected Count	25.2	5.8	16.0	47.0
		% within Q16DRACE	13.7%	22.9%	18.6%	16.5%
Total		Count	153	35	97	285
		Expected Count	153.0	35.0	97.0	285.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.180(a)	2	.336
Likelihood Ratio	2.124	2	.346
N of Valid Cases	285		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.77.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.087	.336
	Cramer's V	.087	.336
	Contingency Coefficient	.087	.336
N of Valid Cases		285	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q2DBILLB * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q2DBILLB	Yes	Count	31	6	30	67
		Expected Count	36.0	8.2	22.8	67.0
		% within Q16DRACE	20.3%	17.1%	30.9%	23.5%
	No	Count	122	29	67	218
		Expected Count	117.0	26.8	74.2	218.0
		% within Q16DRACE	79.7%	82.9%	69.1%	76.5%
Total		Count	153	35	97	285
		Expected Count	153.0	35.0	97.0	285.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.655(a)	2	.098
Likelihood Ratio	4.561	2	.102
N of Valid Cases	285		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.23.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.128	.098
	Cramer's V	.128	.098
	Contingency Coefficient	.127	.098

N of Valid Cases	285	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q2EPOLIT * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q2EPOLIT	Yes	Count	86	18	39	143
		Expected Count	76.8	17.6	48.7	143.0
		% within Q16DRACE	56.2%	51.4%	40.2%	50.2%
	No	Count	67	17	58	142
		Expected Count	76.2	17.4	48.3	142.0
		% within Q16DRACE	43.8%	48.6%	59.8%	49.8%
Total		Count	153	35	97	285
		Expected Count	153.0	35.0	97.0	285.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.106(a)	2	.047
Likelihood Ratio	6.136	2	.047
N of Valid Cases	285		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 17.44.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.146	.047
	Cramer's V	.146	.047
	Contingency Coefficient	.145	.047
N of Valid Cases		285	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q2FDOC * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q2FDOC	Yes	Count	88	7	44	139
		Expected Count	74.6	17.1	47.3	139.0
		% within Q16DRACE	57.5%	20.0%	45.4%	48.8%
	No	Count	65	28	53	146
		Expected Count	78.4	17.9	49.7	146.0
		% within Q16DRACE	42.5%	80.0%	54.6%	51.2%
Total		Count	153	35	97	285
		Expected Count	153.0	35.0	97.0	285.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.731(a)	2	.000
Likelihood Ratio	17.627	2	.000
N of Valid Cases	285		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 17.07.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.242	.000
	Cramer's V	.242	.000
	Contingency Coefficient	.235	.000
N of Valid Cases		285	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q2GNEWS * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q2GNEWS	Yes	Count	121	28	86	235
		Expected Count	126.2	28.9	80.0	235.0
		% within Q16DRACE	79.1%	80.0%	88.7%	82.5%
	No	Count	32	7	11	50
		Expected Count	26.8	6.1	17.0	50.0
		% within Q16DRACE	20.9%	20.0%	11.3%	17.5%
Total		Count	153	35	97	285
		Expected Count	153.0	35.0	97.0	285.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.929(a)	2	.140
Likelihood Ratio	4.165	2	.125
N of Valid Cases	285		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.14.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.117	.140
	Cramer's V	.117	.140
	Contingency Coefficient	.117	.140
N of Valid Cases		285	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q2HPOSTE * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q2HPOSTE	Yes	Count	54	8	33	95

		Expected Count	51.0	11.7	32.3	95.0
		% within Q16DRACE	35.3%	22.9%	34.0%	33.3%
	No	Count	99	27	64	190
		Expected Count	102.0	23.3	64.7	190.0
		% within Q16DRACE	64.7%	77.1%	66.0%	66.7%
Total		Count	153	35	97	285
		Expected Count	153.0	35.0	97.0	285.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.014(a)	2	.365
Likelihood Ratio	2.128	2	.345
N of Valid Cases	285		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.67.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.084	.365
	Cramer's V	.084	.365
	Contingency Coefficient	.084	.365
N of Valid Cases		285	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q2IOTHER * Q16DRACE

Crosstab

			Q16DRACE			
			Black	White	Indian	Total
Q2IOTHER	Yes	Count	12	3	4	19
		Expected Count	10.2	2.3	6.5	19.0
		% within Q16DRACE	7.8%	8.6%	4.1%	6.7%
	No	Count	141	32	93	266
		Expected Count	142.8	32.7	90.5	266.0

	% within Q16DRACE	92.2%	91.4%	95.9%	93.3%
Total	Count	153	35	97	285
	Expected Count	153.0	35.0	97.0	285.0
	% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.553(a)	2	.460
Likelihood Ratio	1.668	2	.434
N of Valid Cases	285		

a 1 cells (16.7%) have expected count less than 5. The minimum expected count is 2.33.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.074	.460
	Cramer's V	.074	.460
	Contingency Coefficient	.074	.460
N of Valid Cases		285	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q2ATV * Q16ACAMP	295	100.0%	0	.0%	295	100.0%
Q2BFRIEN * Q16ACAMP	295	100.0%	0	.0%	295	100.0%
Q2CRADIO * Q16ACAMP	295	100.0%	0	.0%	295	100.0%
Q2DBILLB * Q16ACAMP	295	100.0%	0	.0%	295	100.0%
Q2EPOLIT * Q16ACAMP	295	100.0%	0	.0%	295	100.0%
Q2FDOC * Q16ACAMP	295	100.0%	0	.0%	295	100.0%
Q2GNEWS * Q16ACAMP	295	100.0%	0	.0%	295	100.0%
Q2HPOSTE * Q16ACAMP	295	100.0%	0	.0%	295	100.0%
Q2IOTHER * Q16ACAMP	295	100.0%	0	.0%	295	100.0%

Q2ATV * Q16ACAMP

Crosstab

			Q16ACAMP		
			Westville	Howard College	Total
Q2ATV	Yes	Count	148	126	274
		Expected Count	143.0	131.0	274.0
		% within Q16ACAMP	96.1%	89.4%	92.9%
	No	Count	6	15	21
		Expected Count	11.0	10.0	21.0
		% within Q16ACAMP	3.9%	10.6%	7.1%
Total		Count	154	141	295
		Expected Count	154.0	141.0	295.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.061(b)	1	.024		
Continuity Correction(a)	4.092	1	.043		
Likelihood Ratio	5.180	1	.023		
Fisher's Exact Test				.039	.021
N of Valid Cases	295				

a Computed only for a 2x2 table

b 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.04.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.131	.024
	Cramer's V	.131	.024
	Contingency Coefficient	.130	.024
N of Valid Cases		295	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q2BFRIEN * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q2BFRIEN	Yes	Count	83	92	175
		Expected Count	91.4	83.6	175.0
		% within Q16ACAMP	53.9%	65.2%	59.3%
	No	Count	71	49	120
		Expected Count	62.6	57.4	120.0
		% within Q16ACAMP	46.1%	34.8%	40.7%
Total		Count	154	141	295
		Expected Count	154.0	141.0	295.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.931(b)	1	.047		
Continuity Correction(a)	3.475	1	.062		
Likelihood Ratio	3.946	1	.047		
Fisher's Exact Test				.058	.031
N of Valid Cases	295				

a Computed only for a 2x2 table

b 0 cells (.0%) have expected count less than 5. The minimum expected count is 57.36.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.115	.047
	Cramer's V	.115	.047
	Contingency Coefficient	.115	.047
N of Valid Cases		295	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q2CRADIO * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q2CRADIO	Yes	Count	137	105	242
		Expected Count	126.3	115.7	242.0
		% within Q16ACAMP	89.0%	74.5%	82.0%
	No	Count	17	36	53
		Expected Count	27.7	25.3	53.0
		% within Q16ACAMP	11.0%	25.5%	18.0%
Total		Count	154	141	295
		Expected Count	154.0	141.0	295.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	10.490(b)	1	.001		
Continuity Correction(a)	9.530	1	.002		
Likelihood Ratio	10.636	1	.001		
Fisher's Exact Test				.001	.001
N of Valid Cases	295				

a Computed only for a 2x2 table

b 0 cells (.0%) have expected count less than 5. The minimum expected count is 25.33.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.189	.001
	Cramer's V	.189	.001
	Contingency Coefficient	.185	.001
N of Valid Cases		295	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q2DBILLB * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q2DBILLB	Yes	Count	39	29	68
		Expected Count	35.5	32.5	68.0
		% within Q16ACAMP	25.3%	20.6%	23.1%
	No	Count	115	112	227
		Expected Count	118.5	108.5	227.0
		% within Q16ACAMP	74.7%	79.4%	76.9%
Total		Count	154	141	295
		Expected Count	154.0	141.0	295.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.939(b)	1	.332		
Continuity Correction(a)	.690	1	.406		
Likelihood Ratio	.943	1	.332		
Fisher's Exact Test				.407	.203
N of Valid Cases	295				

a Computed only for a 2x2 table

b 0 cells (.0%) have expected count less than 5. The minimum expected count is 32.50.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.056	.332
	Cramer's V	.056	.332
	Contingency Coefficient	.056	.332
N of Valid Cases		295	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q2EPOLIT * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q2EPOLIT	Yes	Count	81	67	148
		Expected Count	77.3	70.7	148.0
		% within Q16ACAMP	52.6%	47.5%	50.2%
	No	Count	73	74	147
		Expected Count	76.7	70.3	147.0
		% within Q16ACAMP	47.4%	52.5%	49.8%
Total		Count	154	141	295
		Expected Count	154.0	141.0	295.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.760(b)	1	.383		
Continuity Correction(a)	.570	1	.450		
Likelihood Ratio	.760	1	.383		
Fisher's Exact Test				.415	.225
N of Valid Cases	295				

a Computed only for a 2x2 table

b 0 cells (.0%) have expected count less than 5. The minimum expected count is 70.26.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.051	.383
	Cramer's V	.051	.383
	Contingency Coefficient	.051	.383
N of Valid Cases		295	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q2FDOC * Q16ACAMP

Crosstab

			Q16ACAMP		
			Westville	Howard College	Total
Q2FDOC	Yes	Count	93	50	143
		Expected Count	74.7	68.3	143.0
		% within Q16ACAMP	60.4%	35.5%	48.5%
	No	Count	61	91	152
		Expected Count	79.3	72.7	152.0
		% within Q16ACAMP	39.6%	64.5%	51.5%
Total		Count	154	141	295
		Expected Count	154.0	141.0	295.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	18.314(b)	1	.000		
Continuity Correction(a)	17.329	1	.000		
Likelihood Ratio	18.519	1	.000		
Fisher's Exact Test				.000	.000
N of Valid Cases	295				

a Computed only for a 2x2 table

b 0 cells (.0%) have expected count less than 5. The minimum expected count is 68.35.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.249	.000
	Cramer's V	.249	.000
	Contingency Coefficient	.242	.000
N of Valid Cases		295	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q2GNEWS * Q16ACAMP

Crosstab

			Q16ACAMP		
			Westville	Howard College	Total
Q2GNEWS	Yes	Count	132	113	245
		Expected Count	127.9	117.1	245.0
		% within Q16ACAMP	85.7%	80.1%	83.1%
	No	Count	22	28	50
		Expected Count	26.1	23.9	50.0
		% within Q16ACAMP	14.3%	19.9%	16.9%
Total		Count	154	141	295
		Expected Count	154.0	141.0	295.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.624(b)	1	.203		
Continuity Correction(a)	1.252	1	.263		
Likelihood Ratio	1.624	1	.203		
Fisher's Exact Test				.217	.132
N of Valid Cases	295				

a Computed only for a 2x2 table

b 0 cells (.0%) have expected count less than 5. The minimum expected count is 23.90.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.074	.203
	Cramer's V	.074	.203
	Contingency Coefficient	.074	.203
N of Valid Cases		295	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q2HPOSTE * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q2HPOSTE	Yes	Count	56	41	97
		Expected Count	50.6	46.4	97.0
		% within Q16ACAMP	36.4%	29.1%	32.9%
	No	Count	98	100	198
		Expected Count	103.4	94.6	198.0
		% within Q16ACAMP	63.6%	70.9%	67.1%
Total		Count	154	141	295
		Expected Count	154.0	141.0	295.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.770(b)	1	.183		
Continuity Correction(a)	1.456	1	.228		
Likelihood Ratio	1.776	1	.183		
Fisher's Exact Test				.215	.114
N of Valid Cases	295				

a Computed only for a 2x2 table

b 0 cells (.0%) have expected count less than 5. The minimum expected count is 46.36.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.077	.183
	Cramer's V	.077	.183
	Contingency Coefficient	.077	.183
N of Valid Cases		295	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Q2IOTHER * Q16ACAMP

Crosstab

			Q16ACAMP		Total
			Westville	Howard College	
Q2IOTHER	Yes	Count	10	11	21
		Expected Count	11.0	10.0	21.0
		% within Q16ACAMP	6.5%	7.8%	7.1%
	No	Count	144	130	274
		Expected Count	143.0	131.0	274.0
		% within Q16ACAMP	93.5%	92.2%	92.9%
Total		Count	154	141	295
		Expected Count	154.0	141.0	295.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.190(b)	1	.663		
Continuity Correction(a)	.044	1	.834		
Likelihood Ratio	.190	1	.663		
Fisher's Exact Test				.821	.416
N of Valid Cases	295				

a Computed only for a 2x2 table

b 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.04.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.025	.663
	Cramer's V	.025	.663
	Contingency Coefficient	.025	.663
N of Valid Cases		295	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Perceived need for more information on rollout (Question 15)

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q15INFO * Q16DRACE	286	100.0%	0	.0%	286	100.0%

Q15INFO * Q16DRACE Crosstabulation

			Q16DRACE			
			Black	White	Indian	Total
Q15INFO	Yes	Count	146	35	97	278
		Expected Count	148.7	34.0	95.3	278.0
		% within Q16DRACE	95.4%	100.0%	99.0%	97.2%
	No	Count	7	0	1	8
		Expected Count	4.3	1.0	2.7	8.0
		% within Q16DRACE	4.6%	.0%	1.0%	2.8%
Total		Count	153	35	98	286
		Expected Count	153.0	35.0	98.0	286.0
		% within Q16DRACE	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.924(a)	2	.141
Likelihood Ratio	4.981	2	.083
N of Valid Cases	286		

a 3 cells (50.0%) have expected count less than 5. The minimum expected count is .98.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.117	.141
	Cramer's V	.117	.141
	Contingency Coefficient	.116	.141
N of Valid Cases		286	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q15INFO * Q16ACAMP	296	100.0%	0	.0%	296	100.0%

Q15INFO * Q16ACAMP Crosstabulation

			Q16ACAMP		
			Westville	Howard College	Total
Q15INFO	Yes	Count	150	137	287
		Expected Count	150.3	136.7	287.0
		% within Q16ACAMP	96.8%	97.2%	97.0%
	No	Count	5	4	9
		Expected Count	4.7	4.3	9.0
		% within Q16ACAMP	3.2%	2.8%	3.0%
Total		Count	155	141	296
		Expected Count	155.0	141.0	296.0
		% within Q16ACAMP	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.038(b)	1	.846		
Continuity Correction(a)	.000	1	1.000		
Likelihood Ratio	.038	1	.845		
Fisher's Exact Test				1.000	.559
N of Valid Cases	296				

a Computed only for a 2x2 table

b 2 cells (50.0%) have expected count less than 5. The minimum expected count is 4.29.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.011	.846
	Cramer's V	.011	.846
	Contingency Coefficient	.011	.846
N of Valid Cases		296	

a Not assuming the null hypothesis.

b Using the asymptotic standard error assuming the null hypothesis.

Significance Tests: notes

1) For the chi-square test, it is assumed that expected frequencies for each category should be at least 1. Also, no more than 20% of categories should have expected frequencies less than 5. In order to fulfil these conditions, for some variables it has been necessary to filter out the category "no answer" (using the "select cases" option). For other variables, the expected counts in some cells are simply too few to fulfil these conditions. In these cases the chi-square tests have still been used and reported in an attempt to reveal broad trends, but it should be noted that bigger samples would be necessary for more valid results. Footnotes generated by SPSS indicate which variables have more than 20% of categories with expected categories less than 5.

2) When significance tests have been used to search for statistically significant relationships between dependant variables and race, only the Black, White and Indian race-groups have been tested. This is due to the very small numbers of Coloured and Other students who participated in the study. In the case of chi-square tests, these latter two race groups have been filtered out.