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AN ASSESSMENT OF THE MANAGEMENT OF SEXUALLY TRANSMITTED DISEASES (STDs) IN A RURAL DISTRICT HEALTH WARD OF NORTHERN KWAZULU

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Declaration

I, DAVID C. McCOY, hereby declare that this thesis embodies only my original work except where acknowledgement indicates otherwise, and that neither the whole work nor any part of it has been, or is being submitted for another degreee in this or any other university

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ABSTRACT

This study is an assessment of the quality of sexually transmitted disease (STD) management and control in a rural district of South Africa. A semi-structured questionnaire was administered to 5 nurses from public sector primary health care clinics, 5 doctors from the public district hospital, 5 private general practitioners, 6 traditional healers and 7 STD patients. A patient simulation exercise involving 6 nurses and 6 general practitioners was also conducted. Using routine data collection forms, the spectrum of STD syndromes and the contact tracing rate were assessed. The private sector treated nearly a third of the STDs even though they charge about ten times the price of the public sector services. In general, the clinical skills of all providers were poor. While hypothetical patient histories produced reasonable responses on STD management during the interviews, the patient simulation results showed that health service providers provided STD management that was much poorer than the questionnaires indicated. The private general practitioners did not practice syndromic STD management and often did not use laboratory tests appropriately resulting in incorrect diagnosis and inappropriate treatment for STDs. All health service providers did not counsel, promote condoms or encourage contact notification adequately. All health service providers were keen to participate in continuing medical education that better equip them to manage STDs. Any attempts at improving the quality of care in the district must therefore include private general practitioners as an important and central component of STD policy and planning. Interviews with traditional healers and patients showed the importance of using non-biomedical constructs of health and illness in developing health promotion strategies. There is an urgent need to improve STD management at district level in an attempt to meet the first milestone of ensuring that a patient presenting with an STD to a health service is correctly managed. This can be done through the design of simple quality assurance methods as demonstrated in this paper.

Abbreviations

AIDS	Acquired immunodeficiency virus
CSW	Commercial sex worker
DALY	Disability adjusted life year
FP	Family planning
GP	General practitioner
GUD	Genital ulcerative disease
HIV	Human immunodeficiency virus
GI	Granuloma inguinale
HPV	Human Papilloma Virus
IEC	Information, education and communication
IUD	Intra-uterine death
LGV	Lymphogranuloma venereum
MO	Medical officer
OPD	Out-patient department
PHC	Primary Health Care
PID	Pelvic inflammatory disease
PWA	Person with AIDS
STD	Sexually transmitted disease
TB	Tuberculosis
WHO	World Health Organisation
WR	Wasserman reaction (a screening test for syphilis)

1. INTRODUCTION

The management of sexually transmitted diseases (STDs) in Africa has been a legacy of neglect[1]. In recent years however, STD control and treatment has become a public health priority, because of their role as co-factors in the transmission of Human Immunodeficiency Virus (HIV)[2, 3, 4]. It is thought that this legacy of poor control has contributed to the rapid spread of HIV in Africa.

The 5th national South African HIV survey of women attending antenatal clinics was conducted in October/November 1994[5], and found the overall prevalence to be 7.57% (95% CI= 7.01-8.12). This represented an HIV prevalence doubling time of 15.4 months over the period 1991 to 1994. There were also marked regional variations within the country, and at 14.35%, Kwazulu-Natal had the highest HIV prevalence in the country.

Apart from the direct effects of STDs on HIV transmission, STD patients can be considered a high-risk group for HIV acquisition because of the common behavioural risk factors associated with both conditions. Therefore, behavioural and educational strategies to control the HIV epidemic have in STD patients a well defined and accessible group for targeting.

Finally, STDs themselves are also a cause of considerable morbidity and mortality. There are therefore many compelling reasons to ensure that the services provided for the management of STDs are prioritised and optimised.

Given the public health importance of STDs, South Africa's future district health services must find ways for systematically assessing their management of STDs. In doing so, all the potential

role-players would need to be considered, and this would include not only public sector health services, but also traditional healers and the private health sector.

2. PURPOSE AND OBJECTIVES OF THE STUDY

The purpose of this study was to determine the clinical spectrum of STDs and to assess the quality of STD services in a rural health district, in order to help improve the control of STDs.

The specific objectives of the study were:

1. To describe and assess the quality of STD services in the public, private and traditional health sectors of the district.

2. To produce a frequency distribution of the different STD syndromes presenting to different groups of health workers, together with a simple demographic profile of patients.

3. To investigate the community's knowledge, attitude and perceptions of STD services.

4. To make recommendations for the improvement of the STD services and control programme.

3. LITERATURE REVIEW

3.1 Introduction to STDs and their epidemiology

STDs are a group of diseases that are transmitted primarily through sexual intercourse. There are now more than 50 recognised STDs, and HIV/AIDS is one of them. However, for the purpose of this thesis, HIV and AIDS will be regarded as separate from the "classical" or "traditional" STDs some of which are listed in Table 3.1.

Discussion in this thesis will also be limited mainly to the following pathogens which constitute the majority of treatable STDs that present to healthworkers: Neisseria gonorrhea, Chlamydia trachomatis, Treponema pallidum, Haemophilus ducreyi, Gardnerella vaginalis, Calymmatobacterium granulomatis, Trichomonas vaginalis and Candida albicans.

Globally, it has been estimated that about 685,000 people are infected each day with an STD[6], with the greatest burden felt in the developing countries. The World Health Organisation (WHO) estimates that, annually, at least one in ten sexually active people are infected with an STD.

For several decades STDs have ranked among the top five most common diseases for which adults in developing countries seek treatment[7]. Among the developing countries STDs appear to be more common in Africa than in Asia or Latin America[8]. Some of the causes of this have been a lack of STD control programmes, antimicrobial resistance, poor health service facilities, poor health care quality, and inadequate health-seeking behaviours.

Table 3.1 : Important sexually transmitted agents and diseases in South Africa.

Organism	Clinical presentation
Neisseria gonorrhea	Urethritis, epididymitis, proctitis; cervicitis, endometritis, pelvic inflammatory disease (PID); perihepatitis; chorioamnionitis, premature labour; conjunctivitis; disseminated gonococcal infection (DGI).
Chlamydia trachomatis	Same as gonorrhea except for DGI; trachoma; lymphogranuloma venereum (LGV); Reiter's syndrome; neonatal pneumonia.
Treponema pallidum	Syphilis.
Haemophilus ducreyi	Chancroid.
Gardnerella vaginalis	Bacterial vaginosis.
C.granulomatis	Granuloma inguinale.
HIV	AIDS and related conditions.
Herpes simplex virus	Primary and recurrent genital herpes; aseptic meningitis; congenital herpes; spontaneous abortion; premature delivery.
Hepatitis B virus	Acute, chronic and fulminant hepatitis, with associated sequelae such as cirrhosis and hepatocellular carcinoma.
Human papilloma virus	Condylomata acuminata, laryngeal papilloma in infants; squamous epithelial neoplasia of the cervix, anus, penis and vagina.
Trichomonas vaginalis	Vaginitis; urethritis; balanitis.
Candida albicans	Vulvovaginitis; cervicits; balanitis.

In order the attach a priority ranking for STD interventions, one needs to quantify the effects of STDs in comparison with other diseases. Mathematical models have been used by Over and Piot to compute the per capita annual disease burden of STDs and other diseases in sub-Saharan Africa[9].

Their results were that STDs in general, and HIV infection, syphilis and chlamydial infection in particular, are a considerable source of morbidity and mortality in many parts of the developing world, and are ranked first among the top 15 causes of disability-adjusted life-years lost in the most heavily affected urban populations. Even in low-prevalence urban populations, HIV and STDs ranked eleventh among the causes of health lost. The World Bank has has estimated that

STDs collectively rank second in importance among disease for which intervention is possible among women aged 15-44 years worlwide[10].

Given the increasing trend towards urbanisation and the growing proportion of the population in the sexually-active age range, the burden of STDs on the health of society will get larger.

On the whole, accurate data on African populations are poor and largely confined to facility-based ad hoc surveys which provide point estimates of particular STDs. Some of these findings are presented in Appendix 1, and a review of all known South African data since 1980 has been compiled by the National Reference Centre for STDs[11]. It is important to note that many of these reported rates are not comparable with each other because of the different diagnostic criteria and methods that are used to confirm the presence of an infection.

Despite the poor data however, it is possible to make some general comments. First of all, STDs are extremely common in South Africa. It has been estimated that over a million people seek treatment for STDs at municipal clinics and private practice every year, with many more seen in hospital outpatient departments (OPD) and Primary Health Care (PHC) clinics[12].

Secondly, an important feature of the pattern of STDs in South Africa and the rest of the continent is the high proportion of ulcerative STDs. Genital ulcer disease (GUD), for example, accounted for 59% of all new cases of STDs presenting at the University Teaching Hospital of Lusaka in 1989, and chancroid itself was a cause of 17% of all the STDs presenting to Zambia's 40 STD clinics in 1989[13]. In Swaziland, up to half of all male patients with an STD had a genital ulceration[14], and in Zimbabwe, GUDs were present in 64% of 215 men attending an STD clinic[15].

In South Africa, a study published from the Alexandra Health Centre in Gauteng revealed that amongst STD patients in the 20-24 year age group, there were more more presentations of GUD than of vaginitis or urethritis[16]. Amongst GUDs, syphilis and chancroid are by far the two most common conditions in South Africa.

Within South Africa there are also geographical variations[17]. Lymphogranuloma venereum (LGV) is seen commonly in Kwazulu-Natal and the former Transkei, and granuloma inguinale (GI) is particularly common in Durban where rates as high as 16% have been reported amongst persons presenting with GUD[18]. In Cape Town on the other hand, GUD only make up about 20-25% of STDs presenting to STD clinics, with the majority of cases presenting with discharge[19].

Much of the epidemiology of STDs however remains hidden because of asymptomatic infection, especially amongst women. For example, one study of 180 asymptomatic ante-natal patients from Durban revealed that 29 had an asymptomatic STD[20].

The reason why women are especially prone to asymptomatic infection is thought to be partly related to their physical anatomy, and the asymptomatic nature of chlamydial pelvic infection has even prompted some people to call it a "silent epidemic". Many women do not realise that they have been infected until they discover that they are infertile due to fallopian tube blockage secondary to PID[21].

Whilst 5% of men with gonorrhea will be asymptomatic, the rate can be between 25% and 80% for women[22], and up to 70% of women and 30% of men infected with chlamydia may be asymptomatic[23]. In South Africa, there have been reports of very high rates of asymptomatic

infection amongst men. One study of a black mining community estimated that as many as 65% of cases of chlamydial urethritis may have been asymptomatic[24].

The public health importance of asymptomatic infection is that it helps to sustain reservoirs of infection within the community, and contribute to the high incidence of new STD infections. Partly for this reason, a major initiative has been funded by the Rockerfeller Foundation to develop more sensitive and efficient diagnostic methods[25].

3.2 Risk factors for acquiring STDs

For adult individuals the major risk factors for acquiring STDs are directly related to patterns of sexual behaviour[26]. Characteristics that predispose to STDs include having multiple sexual partners, early onset of sexual activity, number of previous sexual partners, the practice of commercial sex, and anal intercourse.

Age is also an important factor. In many urban African centres a large proportion of STD patients are still in their teens. Recent studies have identified age as an independent predictor of chlamydial infection after control for behavioural [27, 28].

An intact foreskin also increases the risk of GUD[29], and it has been suggested that men with an intact foreskin may take less notice of lesions than circumcised men in whom ulcers are readily apparent, and therefore delay seeking treatment[30]. The use of harmful vaginal substances which may result in chemical or physical vaginal damage also increases the risk of acquiring STDs[31].

There are also well established social, political and economic factors that predispose to higher rates of STDs. Increasing urbanisation, the disruption of traditional social structures, migrant labour, poverty, political disruption, the displacement of people through war or natural disaster, poor medical facilities, and high unemployment rates contribute to higher incidences of STDs and their complications [32, 33, 34].

Some studies have also shown a higher prevalence of STDs amongst the more affluent male members of African society. These patterns are thought to be due to their greater opportunities for travel, multiple sexual partners, faster rates of partner change, and commercial sex.

It has been stated that the correlation between socio-economic status and STD prevalence rates is positive for men but negative for women. The low status of women in many African societies coupled with economic hardships, often force women to exchange sex for money, food or shelter.

It is also said that the incidence of STDs and HIV is reduced when the numbers of adult women in urban areas reach some parity with the numbers of adult men[35]. Other studies have shown that female education is an independent and significant factor for lower seroprevalence rates of HIV, and that African cities with low female-to-male secondary school enrollment ratios have high rates of STD infection[36].

Because clinical manifestations and diagnosis are more subtle in women, and also because women have more impediments to accessing health care, they tend to have higher prevalence rates (though not necessarily incidence) than men. Partly for this reason, the total morbidity load from STDs is said to be higher in women than in men.

3.3 The relationship between STDs and HIV

It has long been known that an association between HIV and STDs exists. Many studies have shown that (in both homosexual and heterosexual populations), STDs are more prevalent among HIV-infected people than in comparison groups, and that HIV prevalence in STD patients is higher than in the population at large[37, 38, 39].

This association is not surprising considering the fact that STDs and HIV share the common risk factors that have been noted above. Analyses that control for sexual behaviour and social factors are therefore essential in order to establish the precise relationship between STDs and HIV. Such analyses are difficult to perform because measures of sexual behaviour are often imperfect, unobtainable for partners, and difficult to validate for both. Recent research however has shown that STDs increase the efficiency of HIV transmission [40].

Two independent relationships have been established. Firstly, that STDs increase the transmission of HIV, and secondly that HIV alters the presentation, natural history and prognosis of STDs.

GUD, syphilis, chlamydia, gonorrhea, herpes and trichomoniasis [41, 42, 43, 44, 45, 46,] have all been observed to increase the risk of HIV transmission by two to nine times. Although GUD is thought to be a more effective co-factor for the transmission of HIV than non-ulcerative STDs, because non-ulcerative disease tends to have a higher prevalence in most populations, they may be responsible for a larger proportion (attributable risk) of HIV transmission than genital ulcers.

Mechanisms that may be responsible for enhanced HIV transmission in the presence of STDs include the lack of a mechanical skin or mucosal barrier to viral shedding or entry, and the presence of activated lymphocytes and macrophages to which the HIV virus targets. Many STDs also bleed upon contact[47].

The effect that HIV has on STDs includes prolonging the overall duration of lesions, causing more frequent recurrences, and inducing more common treatment failures[48]. HIV also contributes to a greater frequency of atypical presentation[49]. Other evidence suggests that HIV increases the rate of gonococcal complications such as PID, that it increases the risk of treatment failure of syphilis, and that it brings about an increased tendency for Human Papilloma Virus (HPV) infection to progress to cervical dysplasia and neoplasia[50].

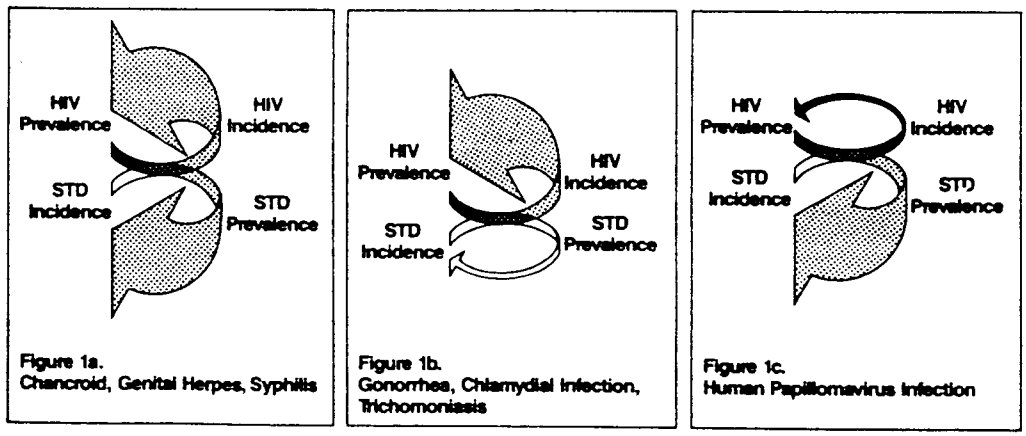

Figure 3.1: The relationship between HIV and STDs may differ for different STDs. GUD and HIV appear to reinforce each other, because these STDs facilitate HIV transmission, while HIV infection may simultaneously prolong or augment the infectiousness of individuals with GUD (1a). The discharge syndromes probably interact with HIV infection in a unidirectional fashion by promoting HIV transmission without a synergistic increase in their own prevalence or incidence (1b). HPV infection may represent a traditional opportunistic infection, the expression and progression of which are augmented by HIV (1c).

However, it has been a recently published study from Tanzania that has finally proven the hypothesis that STDs facilitate the transmission of HIV through a randomised, controlled community-based trial[51]. In this study, six pairs of matched communities that formed the catchment population for health care clinics were selected. One of each pair was then randomly allocated to either the intervention or control arm of the study. Prior to the implementation of the interventions, a baseline HIV prevalence study was conducted in all twelve communities.

Following this a number of feasible and inexpensive STD control strategies were implemented in the six communities allocated to the intervention arm of the study. These strategies included a three week training programme in comprehensive, syndromic management of STDs, ensuring a consistent and appropriate supply of STD drugs, regular supervisory visits to the clinics and health promotion in the community aimed at marketing the fact that the health services were now specially improved for the management of STDs.

These interventions were continued for two years following which a second survey of HIV prevalence was conducted in both the intervention and control arms of the study. The findings showed that compared with the control arm, there had been a 42% reduction in the incidence of HIV, a finding that was seen in both sexes. Surprisingly however, although there had been concomitant reduction in the prevalence of STDs, this was not statistically significant.

This is the first report of a randomised control trial of a preventative intervention against HIV in the general population anywhere in the world, and is the clearest evidence to date that a large proportion of HIV infections in Africa are attributable to the co-factor of STDs.

3.4 Complications of STDs

In women, the important complications of STDs are pelvic inflammatory disease (PID), ectopic pregnancy, cervical cancer, and infertility. In pregnancy, STDs can result in abortions, intra-uterine death (IUD), premature labour and ppuerperal sepsis, whilst neonates are at risk of developing congenital syphilis, or infection as a result of passage through the birth canal. Complications in men are generally much less common, and include urethral strictures, Fourniere's Gangrene, epididymitis, prostatitis and infertility.

Gonorrhea, if left untreated, will cause salpingitis in five to ten percent of women. Although the heterosexual transmissibility of chlamydia is thought to be lower than for gonorrhea, the risk of developing salpingitis in women is roughly the same, which is about 15% after one episode of salpingitis, 30% after two episodes, and over 50% after three or more episodes[52]. One study estimated the annual incidence of PID among urban women between the ages of 15 and 45 in sub-Saharan Africa to be between one and three percent[53].

Another study noted the annual incidence of bilateral tubal occlusion to be between 0.3 and 1.5 percent in urban women in sub-Saharan Africa[54]. Whereas bilateral tubal occlusion is found in 50-80 percent of some African women who are infertile, it is only 14 to 20 percent in such women in Asia, Latin America and the Middle East[55].

The problem of infertility can itself lead to further complications. In many African societies, a woman's value may be lost if she is unable to demonstrate her fertility. Marital instability caused by infertility can lead to changes in sexual mobility and practise that form part of a vicious cycle[56].

The movement of infertile and barren women into prostitution has been a noted feature of several African cities. STDs can therefore be both a cause and a consequence of the entrapment of women in positions of low socio-economic status. Another knock-on effect of the high levels of infertility is the perpetuation of high rates of early conception and fertility amongst women because they lack the confidence to use contraception when infertility is seen as such a common problem.

Maternal gonococcal infection is also a risk factor for premature delivery, chorioamnionitis, and post-partum endometritis which can occur in up to 20% of all parturient women[57]. The risk of gonococcal transmission from an infected mother to her infant's eyes is said to be 30 to 40 percent if prophylactic treatment is not used on the newborn[58]. Untreated gonococcal ophthalmia can lead to keratitis and blindness.

Chlamydia is also a major cause of post-partum endometritis[59], and ophthalmia neonatorum, although it has fewer serious ophthalmic complications than gonorrhea. It can however be a cause of serious neonatal pneumonia. Pregnant women with untreated syphilis of under two years duration will transmit the infection to their fetus in almost all cases, and approximately half of all pregnancies with untreated primary or secondary syphilis will result in abortion, stillbirth, perinatal death or premature delivery[60].

3.5 Factors related to the control of STD transmission

The "core group" phenomenon

As with all infectious diseases, interventions to reduce the prevalence and incidence of disease require an approach that extends beyond the case management of individual patients. There must instead be a focus on preventative measures, and interventions designed to reduce the transmissibility of the infectious agents in ways that sustainable and appropriate. In this section of the literature review, attention will be paid to some of the issues that are relevant to a public health approach to the control of STDs.

An important feature of the epidemiology of STDs as compared to other communicable diseases is the importance of the heterogeneity of sexual behaviour. A simple characterisation of this heterogeneity is to posit two separate groups of people: on the one hand there is a "core group" of highly sexually active individuals, and on the other, a "non-core group" of less sexually active people. High sexual activity in this regard is meant in terms of both frequency of sexual acts as well as frequecny of partner change.

Over and Piot have made a number of mathematical models to simulate these features of STD epidemiology, and one observation stands out in their modelling excercises[61]. This is that the total burden of an STD is likely to be unequally distributed between the core and non-core groups, and that the core group plays an important role in maintaining higher levels of STD prevalence amongst the non-core population. It is thus suggested that interventions should be targeted at the core group for maximum benefit.

The core group however is an epidemiological concept rather than a well-defined social group,

so that identifying and reaching such groups may be difficult. Because commercial sex workers (CSWs) are relatively easy to find, they are often the only core group that is targeted.

However, other "core groups" might include clients of CSWs, the military, migrant workers, long distance truck drivers, adolescents, nightclubbers/bar frequenters, construction site workers, and the police. Each region will have different patterns of sexual networking which will vary the key "core groups" from place to place.

An example of how the core group approach works is provided by Moses and others in Kenya[62]. On the basis of estimates of numbers of HIV-positive CSWs, numbers of sexual contacts, partner susceptibilities, HIV transmissibility, and condom use, it was calculated that an intervention amongst 1000 sex workers in a low income suburb of Nairobi would prevent between 6000 and 10000 new HIV infections a year, at a cost of US$8-12 per HIV infection averted.

Another core group intervention from Zaire (consisting of condom promotion and supply, health education, and regular STD screening and treatment) focused on 531 HIV-negative women CSWs[63]. Over a period of 36 months a decline in HIV incidence was noted from 11.7 cases per 100 women years (wy) to 4.4/100 wy (p=0.003). Simultaneously, regular use of condoms with clients went up from 11% to 68%.

Other mathematical models have demonstrated the relative cost-efectiveness of a "core" versus "non-core" strategy. Over and Piot showed that a policy of targeting the cure of gonorrhea in the core group averts ten times as many cases as a policy that targets cure in the non-core group.

The targeting of "core groups" should should furthermore not be limited to the clinical management of STDs, but also involve information, education and couselling (IEC) programmes. According to Over and Piot, focusing IEC programmes on the core group may be four to eight times more cost-effective in saving DALYs than if the programme targeted the non-core population.

Although targeting has the potential drawback of making those who are targeted feel stigmatised, and those who are not to react with a false sense of security, the issue of targeting interventions to these disproportionately important group of core STD transmitters has been a key element of STD control in other countries, such as the United States and Sweden[64, 65].

Reducing the transmission of STDs

In order to be able to reduce the transmissibility of STDs, it is useful to define the parameters that determine an individual's infectivity, and his or her capacity to transmit the infection to someone else. The three parameters are:

1. The degree of infectivity:
   - nature of organism;
   - susceptibility of individual to infection;
   - antagonists to infection;
2. The demand for medical care:
   - discomfort caused by disease;
   - understanding/perceptions of patient;
   - socioeconomic status of patient;
3. The supply of medical care:
   - availability of health services;
   - quality of health services;

The degree of infectivity of an STD is determined by the characteristics of the organism, or the susceptibility of the individual. For example, gonorrhea is more infectious than chlamydia, and an immune suppressed individual is more likely to become infected than a person who is healthy. Sexual intercourse in the presence of genital lesions also makes it more likely for transmission of disease to occur, and a study of 100 consecutive men and 100 consecutive women presenting with GUD in Durban revealed that more than a third in both groups had continued to have intercourse despite the presence of their lesions[66].

The types and pattern of sexual behaviour also influence the transmissibility of STDs. Unprotected anal intercourse for example allows more efficient transmission of HIV than unprotected vaginal intercourse, as does high frequency unrpotected intercourse with multiple partners.

However, there are a number of antagonists to infection that can be employed. For example, condoms can act as a barrier to infection, and the use of microbicides can also reduce the rate of transmission of an STD from one person to another[67]. One study found that women using Nonoxynol-9 spermicide consistently had a substantially (70-80 percent) lower rate of HIV infection compared to women using the spermicide less consistently[68].

Another approach to reducing the transmissibility of STDs is through addressing the second parameter, which is to increase the demand for appropriate medical care. In other words, to ensure that STD patients are treated and cured as soon as possible after being infected, or becoming symptomatic. The determinants of an individual's health seeking behaviour however are multi-factorial.

In one study from Swaziland, 60% of the respondents expressed beliefs that having an STD is shameful or damaging to one's reputation, and gave these as reasons for not seeking medical treatment[69]. Reducing the embarassment and stigmatisation of STDs can therefore be a mechanism for encouraging better health seeking behaviour.

The demand for health care may also be determined by socio-economic and logistical constraints, such as the cost of getting to a health facility, or the cost of paying for a service. In one study from Kenya, user fees were shown to have had a considerable impact on deterring both female and male patients from using health care services[70]. When the user fess were removed, attendance for STD complaints were seen to rise again.

Women in particular have social impediments to seeking health care due to their status in society. A recent commentary in the Lancet began with the following quotation by Dixon and Wasserheit: "Women have internalised the ethic of nobility in suffering such that pain and discomforts emanating from their reproductive and sexual roles are accepted as the very essence of womanhood"[71].

In many countries it has been shown that women do not decide on their own to seek care: the decision usually belongs to a more senior and male member of the family[72]. This need for an emphasis on women for effective STD control is a recognition that women experience fewer symptoms, are inured to discomfort as part of reproductive physiology and social status, and have less access to health services[73].

The public's perception of quality also plays an important role in determining health utilisation

patterns. One of the problems in South Africa relates to the perception amongst patients that the quality of care rendered by nurses is inferior[74]. Finally, the patients' own perceptions and understanding of his/her symptoms and signs are important in determining the pattern of health care utilisation. For example, many women who present to health services for family planning are not even aware that they have a symptomatic STD. Cultural and traditional beliefs are also important determinants which will be discussed later in this literature review.

Another problem is related to asymptomatic infection; individuals who are unaware of the possibility of asymptomatic infection may not seek treatment despite having been exposed to infection.

Another factor that affects health seeking behaviour is the level of discomfort caused by the disease. The more uncomfortable the disease, the sooner the patient will come for treatment. However, even in the case of GUD, the time between onset and presentation at a medical facility is often between two to four weeks in sub-Saharan Africa[75].

Improving health seeking behaviour is a much neglected but important aspect of STD management stategies. To do this effectively, more than just encouragement is needed. For women especially, better social and economic conditions must be established to allow more appropriate health seeking behaviour.

Improving the health seeking practices of the public must also be complimented with improving the accessibility of effective health services. In South Africa, the fragmentation of the apartheid health services made STD services inaccessible to patients. Patients who were attending antenatal

clinic for example were often required to go to another clinic to have a co-existing STD treated.

Since transient persons and adolescents are particularly vulnerable to STDs, accessibility could also be improved by offering services at places like shelters, bus and train stations, and schools.

Having made facilities available, it is then crucial that personnel, equipment and drug supplies are made available. In Zimbabwe, a successful STD programme that was supported by the WHO has now fallen apart because the health service cannot afford to supply the necessary antibiotics[76].

The public and private sectors also need to improve liaison with each other. Many studies have shown that patients with STDs have a preference for seeing private practitioners [77, 78]. Often quoted reasons for this are that private services are quicker, less accusatory and more private. The need and difficulty of involving the private sector has been noted. The WHO has recommended the need for operational research into ways of involving and motivating the private sector in STD management[79].

Finally, given the lack of recognition of STD symptoms, and given the tolerance of STD symptoms (especially in the case of women), STDs can be detected and treatment provided more readily, by healthworkers proactively asking women about STD symptoms, or recent exposure to STDs. The need for this is illustrated by a survey of 249 women attending a family planning clinic in a rural area of the Eastern Transvaal which revealed 140 women with STD symptoms on direct questioning[80]. This finding was found in another study in Durban amongst women attending a variety of non-STD health services in whom symptomatic cervico-vaginal infections was present in up to 50% of the women[81].

By encouraging the disclosure of STD symptoms and by educating women about the nature of STD signs and symptoms, appropriate services can be made more accessible to women by providing them with greater opportunities to receive treatment and care.

Case management and the need for a syndromic approach.

Traditionally, providers have used two approaches for diagnosing STDs. "Aetiological diagnosis" identifies the organism causing the illness, and requires expensive and difficult diagnostic tests. It is clear that the resources needed for aetiological diagnosis are beyond the capacity of this country.

"Clinical diagnosis" on the other hand attempts to identify the STD on the basis of clinical signs and symptoms without the use of expensive laboratory tests. However, even experienced STD providers often misdiagnose STDs when they rely on clinical experience [82,83]. In one study, the overall accuracy of a clinical diagnosis of GUD was 40 to 70 percent in centres with extensive experience in the syndrome[84].

One problem is that the presentation of STDs is naturally diverse, and that the clinical presentation of STDs is frequently atypical in developing countries where patients often present late in the course of their disease. This difficulty is made worse in the setting of HIV which makes STDs more likely to present atypically.

Another problem in Africa is the high rates of mixed infection which make diagnosis and therapeutics difficult. For example, between 15-20% of cases of gonococcal urethritis have a chlamydia co-infection, and up to 20% of RPR tests conducted in non-treponemal STDs are

positive[85]. A study of male patients presenting with a GUD in Durban had co-existing gonococcal infection in 12%[86]. Another paper reported that 11% of patients with urethritis tested positive for syphilis[87].

The relative frequencies of the different causes of GUD can also very with time. Two studies on the aetiologies of GUD in Rwanda in 1986 and 1992 found that there had been a shift in the relative frequencies of the different aetiologies[88].

Proponents of the clinical diagnosis approach say that if the patient returns for follow-up, misdiagnoses can be rectified then. However the reality of the situation is that few patients return for follow-up appointments. The importance of getting the diagnosis and treatment correct at the first visit is therefore of the utmost importance.

All these difficulties have led the WHO and others to advocate what is called the syndromic approach[89]. The basis of this approach is to treat all the possible organisms that are likely to be the cause of a type of clinical presentation. Patients are thus treated on the basis of a group of symptoms and signs, or syndromes, rather than for a specific STD. Treatment is adapted to suit local disease and resistance patterns, as well as to suit the financial constraints of a particular country.

Although this means treating for several STDs at the same time, it has the advantage of providing a one-stop diagnostic and treatment service which is simple and easy to use. Having standardised treatment plans based on syndromes also allows STD patients to be managed effectively by non-specialist clinicians. Like many other effective and efficient public health tools the syndromic

approach is rapid, inexpensive, simple, accurate and can be implemented on a large scale by health providers with a diverse level of expertise and training.

In Rwanda, three different approaches to the management of syphilis and/or chancroid were compared. The syndromic approach resulted in 99% of the patients with syphilis and /or chancroid being correctly managed. For the approach based on performing a screening test for syphilis (if RPR positive, treat for syphilis, if RPR negative treat for chancroid) and for a clinical diagnosis approach, the proportion of correctly managed patients were 82% and 38% respectively[90].

Another argument in favour of the syndromic approach is based on cost and cost-effectiveness. This was illustrated by a study at the Johannesburg Municipality STD clinics which compared the costs of three alternative diagnostic strategies[91] for urethral discharge, vaginal discharge and GUD.

Strategy A adopted a comprehensive approach using a full range of tests to provide an aetiological diagnosis. Strategy B adopted a semi-comprehensive approach using a limited number of diagnostic tests, and finally, strategy C used a syndromic approach without using laboratory tests. The findings are as follows:

Strategy	Urethral discharge	Vaginal discharge	GUD in males
A	R 124.96	R 163.97	R 163.35
B	R 17.23	R 26.80	R 20.21
C	R 11.35	R 16.30	R 6.95

This study however only compares the costs of the various diagnostic and treatment options.

However, in order to make a more worthwhile comparison, the cost-effectiveness of the various options need to be compared. This will depend on the sensitivity or specificity of the syndromic treatment flow chart.

Other studies suggest that the cost per patient managed by the syndromic approach could be four times less expensive than by clinical diagnosis and up to seven times less expensive than by aetiological diagnosis[92].

Although the syndromic approach may appear to be quite obvious, as late as 1991 the Department of National Health in South Africa were advocating something quite different. In their "blue book" on STDs they suggested that the ten following laboratory tests for STDs be made available at all centres where patients seek STD treatment: syphilis serology (non-treponemal screening test + treponemal confirmatory test), culture for gonorrhea, chlamydia and haemophilus ducreyi, light microscopy for gram-stain and wet preparations, darkfield microscopy for treponema, and HIV tests[93]. This was clearly an unfeasible and inappropriate policy which reflected a lack of clarity and understanding in STD planning.

The syndromic approach however does have its weaknesses. Because it depends on the presentation of a symptomatic patient, it is ineffective for treating STDs in those who are asymptomatic.

Furthermore, because there is such a wide range of possible infections responsible for vaginal discharge, the syndromic approach is a blunt instrument for this presenting condition. Vaginal discharge can be caused by a variety of organisms that include trichomonas, gardnerella, candida,

gonorrhea and chlamydia, and is a symptom that could reflect either vaginitis or cervicitis or both. In order to cover all possibilities for the cause of vaginal discharge, antibiotics covering as many as five organisms may have to be deployed. For this reason, some experts believe that without at least elementary laboratory testing, the syndromic management of women with vaginal discharge may constitute inefficient and bad medical practice.

However, the reality is still that physical signs and symptoms alone are not adequately sensitive or specific[94], and that laboratory facilities are not available in most PHC clinics in Africa. It is therefore important to maximise the efficiency and cost-effectiveness of a syndromic approach to the management of vaginal discharge. For example, the specificity and cost-effectiveness of the syndromic management of vaginal discharge could be improved by adding a risk assessment component to the case management protocols. This approach would use surrogate markers to predict the co-existence of gonococcal or chlamydial infection.

Although several studies have shown that risk markers rather than physical signs and symptoms are able to predict gonococcal and chlamydial cervicitis in the presence of vaginal discharge[95,96], these risk markers need to be validated for different geographical and cultural population groups. Alternatively, in a situation where a speculum examination is possible, the clinician can try to differentiate aetiologies of vaginal discharge, although the clinical signs of cervical mucopus and induced endocervical bleeding have been shown to have a low sensitivity as signs of cervicitis (but a relatively high specificity).

The difficulty of diagnosing PID is also a well recognised problem[97]. Part of this is due to the broad spectrum of clinical presentation and natural history of the disease[98]. At other times the

symptoms due to PID may be mistaken for urinary tract infection, gastroenteritis or indigestion, and the accuracy of clinical diagnosis of lower abdominal pain in young women is known to be poor.

In the future however it is hoped that science will develop cheap and reliable rapid diagnostic tests that can be used in primary care clinics.

Patient compliance with the therapy

Poor patient adherence to the prescribed treatment can lead to treatment failure, the development of complications, the development of antibiotic resistance and in an extended period of infectiousness in patients.

According to a recent review[99], patient compliance rates hover around 50% for most conditions (even those that are "life-threatening"). The following have been found to be associated factors[100]:

- complex and long treatment regimens
- side effects
- inefficient, inconvenient and disorganised therapeutic sources
- patients underestimation of the seriusness of the illness
- lack of family support
- patient disatisfaction with the health provider
- poor communication between provider and patient
- inadequate supervision by the health provider

The primary prevention of STDs

In the past very little effort was made towards the primary prevention of STDs, and the reduction of risky sexual behaviour. Now with the emergence of HIV which is incurable and for which there is no vaccine, one of the great challenges in Africa is to prevent infection by promoting healthy sexual behaviour, even though it is an area of human behaviour that is extremely resistant to change or modification.

For this to be successful, two things are required. First of all there needs to be a good understanding of the pattern, extent, dynamics and determinants of existing patterns of sexual behaviour. Secondly, the interventions designed to change or prevent risky sexual behaviour must be appropriate and efficient.

According to some experts, there is a general lack of understanding of human sexual behaviour [101], and that many HIV/STD health education campaigns suffer from this[102]. It is only with the AIDS epidemic that this essential area of health is being given its due importance, and that investigations into the area of sexuality are not limited to medical, but also include cultural, social, political, and economic factors.

Thornton and Catalan have also illustrated the need to go beyond the provision of education and information, because of the fact that mere knowledge of risk is not sufficient to change behaviour[103]. Like all human behaviour, what people do sexually is influenced by a large number of factors:

- what people know or don't know (knowledge)
- what people think or feel (beliefs and attitudes)

- what people feel able to do (empowerment, self-esteem and skills)
- how other people in the community behave think and feel (Peer pressure and social influences)
- the wider environment(culture, religion, economic opportunities, legislation, available health services, etc.)
- an individuals' age and sex

One reason that traditional methods of mass IEC programmes have had little or no effect on altering behaviour[104], is because people's options for change are restricted by factors that are beyond their control. Some women for example are not in a position to practise safe sex because they are unable to negotiate safe sex with their partners without risking abuse or assault[105].

Another reason is that some people are unable to identify themselves with health messages, to express their personal needs, or to be able to make decisions about their own sexual behaviour. Instead, many adopt a passive acceptance and fatalism in the face of serious risk. One way around this is to raise people's self-awareness by encouraging greater self respect and self-determination. It is also important to enable people to identify their own priorities, and to respond in an appropriate way.

It is also important that health education programmes realise that they cannot change behaviour for people, but that they can only work with people to help the process[106]. In other words, participation is key to successful interventions aimed at changing behaviour.

Because behaviour is largely determined by the social and cultural milieu of the individual,

interventions must also be targeted at the community level. Getting one individual to change what is accepted as "normal" without any corresponding change in that person's community is extremely difficult to achieve. Although individuals who present with STDs should be targeted for IEC, it is important to realise that these individuals are part of a larger society that will have a stronger influence on their behaviour, and that therefore the community at large must also be targeted with IEC.

It is only at the community level that IEC can be effective in establishing new values and norms of behaviour. Values and norms of behaviour are also moulded and developed at critical points of life, none more so than during the period of pre- and early adolescence. The fundamental importance of focusing IEC programmes at the youth and schoolchildren is now well accepted.

In order to be effective at changing behaviour, IEC programmes not only need a clearer understanding of sexual behaviour, but also a means of delivering the IEC at the community level.

One of the most effective ways to have been demonstrated is through the use of peer group educators and motivators, and community lay educators.

Peer group counselling is a method of IEC that has been successful with prostitutes in Kenya, Ghana and Cameroon, truck drivers in Tanzania, and youths in Zaire. Peers are not only better at delivering IEC, but they are also better at locating certain core group members[107].

Some of these principles have been summarised by O'Reilly and Higgins who make a plea for IEC interventions to focus on effecting behaviour change[108]. The process of instituting effective IEC

programmes often starts with an extensive sociological and ethnographic assessment of the target group or target behaviour, and sometimes of the IEC providers themselves.

They also explain that learning new behaviours takes place through modelling the behaviours of others, particularly those perceived as attractive and important. They conclude that initiating new behaviours requires both cues from the environment and reinforcement, and that target-group orientated messages are needed, as well as target-group orientated messengers.

A greater focus is needed on the creation of the social, cultural and economic conditions that would enable and allow behavioural change to take

Condom promotion.

Condoms are considered one of the key elements in STD/HIV Programmes, offering a protective barrier to the transmission of disease. In one Rwandan study the incidence of HIV amongst childbearing women was reported to have declined after counselling and condom promotion was initiated[109].

In another study of 334 HIV-seronegative women in a stable, monogamous relationship with HIV-positive partners, the risk of acquiring HIV infection was markedly reduced in women using condoms always[110]. The annual seroconversion rate over a median study period of 24 months was 9.7% in couples never using condoms, and 5.7% in couples not always using condoms, and 1.1% in couples who "always used" condoms.

There have been successes in the promotion of condoms in parts of Africa[111]. A social marketing

programme in Zaire for example increased condom sales from 1 million in 1986 to more than 8 million in 1990, and another in Cameroon reached the same per capita distribution in a year[112].

Contact tracing

Contact tracing has been a key component in the large reduction of STDs in North America and Europe[113]. Without contact tracing and treatment, an STD patient is likely to become reinfected. Any health provider that treats a patient with an STD has a responsibility therefore to initiate contact tracing.

In the literature review, only one study looking specifically at the issue of contact tracing in Africa has been published. This was a study evaluating the use of mail reminders for contact tracing in Ibadan, Nigeria[114], which concluded with discouraging results.

In Kwazulu, the use of contact tracing cards was evaluated in a small survey of 148 STD patients presenting to 3 rural primary care clinics.A total of 191 patient-referral contact tracing cards were issued (sexual contacts were defined as all sexual partners within the last three months who resided in the health district). 46 out of the 191 cards were recovered by the health service implying that a minimum of 24.1% of all local sexual contacts were traced and treated[115].

Other studies in South Africa have revealed either "low" contact tracing rates[116], or successful contact tracing in only 10% of cases[117]. This compares poorly with rates as high as 30% from Harare, Zimbabwe[118].

Comparisons however need to take into account how contacts are defined, and what denominator

is used in the calculation of contact tracing rates. In South Africa where there is a highly mobile population, many sexual partners of patients presenting with STDs may not be anywhere in the vacinity of the clinic. These clinics are never going to successfully trace such contacts and clinics should only consider measuring the success of tracing those contacts who live in the area of the clinic.

As with other aspects of STD control, the effectiveness of contact tracing will increase as it becomes accepted as an important health measure by the community at large. IEC programmes however have not adequately focused on this important aspect of STD management.

Public health approach to STDs

Given all the above requirements for the effective management of STDs, it is clear that STDs require a broad public health approach to their control. It will not be enough to simply ensure that clinical case management is optimised. A public health approach is necessary to ensure primary prevention, and the adoption of safer sexual practices.

An example of a successful public approach to STDs and HIV has been described in Thailand[119]. A central component of Thailand's response to their growing AIDS epidemic was a programme to ensure condom use in commercial sex, which is considered to be Thailand's main source of the heterosexual HIV infection. This was done by imposing sanctions on commercial sex establishments if they did not strictly adhere to a condom policy.

Establishments that were not promoting condoms were identified through the surveillance of patients presenting with STDs. These establishments would be closed down by the police so that

clients quickly realised that they had to comply with condom usage if they were to continue having access to commercial sex.

The second part of the Thai programme was to provide a supply of condoms for the commercial sector, together with an explicit mass advertising programme. There was also a heavy emphasis on army recruits who are a major client group of the commercial sex industry.

As a result, condom use has increased from 14 to 94% of commercial sex acts. In that period there has also been a significant decline in the number of new cases of gonorrhea, chancroid, LGV, NGU and syphilis, which is attributed to the condom programme as well as the introduction of quinolone antibiotic therapy.

This decline furthermore occurred during a period when the demand for STD services increased. This pattern of declining new cases but increasing frequency of visits, meant that more women were returning for follow-up visits and check-ups. This was partly due to a proactive programme of bringing in CSWs for treatment which expanded the health coverage of the sex industry.

Whether or not this has led to an absolute decrease in HIV transmission is still not certain, but it has almost certainly prevented a far worse epidemic. The programme succeeded by recognising that the epidemic was generated by a core group, and by working through the commercial sex system and not against it. Lastly, the programme relied on the multi-sectoral cooperation of the health services, the CSWs and the police.

3.6 Traditional healing systems in Africa with reference to STDs

In many African societies, traditional healing systems play an important role in the provision of health care. In South Africa, it is estimated that 80% of African patients seen at a biomedical health facility will also consult a traditional healer[120]. The Reconstruction and Development Programme of South Africa has acknowledged this fact by stating that traditional healers should be included as role players in the restructuring, development and delivery of health care.

The World Health Assembly has also passed a number of resolutions since 1976 calling for greater utilisation of traditional systems of medicine and more effective collaboration between traditional and modern health care sectors[121]. It was explained that given the paucity of human and material resources in Africa, together with the epidemic of AIDS, TB and diarrhoeal diseases, traditional medical systems are a resource that needs to be used more.

For certain types of illness, indigenous medicine is preferred over modern medicine. To some extent, this is because traditional healers share the same language and background as their patients, which is reflected by a far more holistic view of health and illness. Among the Zulus for example, the traditional healer can take the role of minister of religion, legal adviser, custodian of history and tradition, psychologist and community elder. This can be described in another way: "The medical doctor treats the disease while the traditional healer treats the person who happens to be ill"[122].

More significantly, traditional healers are sometimes sought preferentially for certain types of illness because of the shared traditional beliefs and cultural constructions of illness (which are

radically different from biomedical or germ theory models of disease and illness).

For example, in indigenous African systems there is often a dualistic model of explanation which involves both the "how" and the "why" of illness or misfortune. In terms of STDs, the "how" may be explained through a sexual act, but the "why" may be due to sorcery or witchcraft. Many illnesses are also categorised as having either "natural" or "supernatural" causes, with traditional healing methods playing a key role in those illnesses perceived to be of supernatural origin. Some African systems also construct a distinction between African/indigenous illnesses and those of foreign and comparatively recent origin[123,124].

The use of modern medicine on the other hand does not mean an acceptance of the cognitive or philosophical principles of modern medicine. Many African users of modern medicine are not concerned about the scientific objectivity that underpins the biomedical approach. Although the boundary between western and traditional healing is blurred, many Africans would tend to classify STDs as diseases that require traditional management[125].

A survey of adult urban Swazis in 1987 revealed that 31% of respondents used traditional healers as therapists of choice for STDs[126]. This is high considering the fact that the respondents lived in urban areas which were less traditional and which had modern biomedical health services available, and also because it is known that Swazis have a reluctance to admit to the consultation of traditional healers in the context of a formal interview.

In Swaziland, most diseases that are recognised to be sexually transmitted are thought to be indigenous Swazi diseases and therefore best treated by traditional medicine. Because sorcery is

believed to be the root cause of most of these conditions, western medicine is considered to be mostly ineffective[127].

For example, a number of conditions or illnesses *(likhubalo, gcunsula, timvilapo* and *shengele)* which are manifested by genital lesions, are said to be caused by sorcery. In this instance a possessive man will treat his wife or lover with special medicines intended to ensure her fidelity, especially while the man is working away from home. If another man has sex with the woman he will develop the illness. The severity of the disease is said to depend upon the degree of the man's possessiveness which influences the strength of medicines used.

In Tswana, the understanding of disease transmission is connected with concepts of pollution that originate in the female body. This pollution may be transmitted to men by sexual intercourse that takes place within culturally proscribed periods such as after birth or abortion. The man may then transmit the pollution to other women through sex. Blood and semen are seen as the basic vehicles for transmission of the pollution, and it is interesting to note that these two bodily fluids are called by the same word in Setswana, *madi*[128].

Another important point to understand is that non-STDs (as understood by modern medicine) may be regarded as sexually transmitted illnesses in African systems. For example, haematuria is regarded as a sexually contractable disease in Swaziland, as is TB in parts of Mozambique. Leprosy, hernias, headache, diarrhoea and seizures have also been variously described by traditional healers as conditions that can be contracted through sexual intercourse. These conditions are not *always* caused by sex, but they *can* be transmitted by sex.

In other words, sexual intercourse provides only one of many routes or mechanisms for sorcery or contamination to take effect. Thus even if modern medicine is considered superior in the treatement of the symptoms and manifestations of an illness, many Africans are still likely to consult traditional healers to understand the source of the illness.

There is still inadequate information about whether traditional healers are microbiologically effective in the treatment of STDs. Experts seem to think that whilst most traditional medicines lack antibiotic properties, they may appear to be effective because many symptoms clear up spontaneously.

However, some projects in Africa have shown that traditional healers can have an impact in promoting safer sex practices[129]. In the Manica Province of Mozambique, the Department of Traditional Medicine of the Mozambique Ministry of Health has set up a three year program to organise traditional healers to reduce the the spread of HIV and the incidence of common STDs[130]. An initial ethnographic survey of the practice of traditional healers found that practically all the preventive advice given to patients with STDs was biomedically sound, although incomplete. It was also felt that a number of health promotional activities such as condom promotion, the safe use of razor blades for scarification, and the encouragement of cross-referral from hospital to traditional healer could be introduced in a way that was explainable and acceptable to their system of understanding.

Imaginative ways can therefore be established for biomedical health systems to work with traditional health systems in a way that could improve the control of STDs and HIV, but without negating the cultural and supernatural foundations of traditional healers.

3.7 Zulu cultural beliefs about health and illness

The construction of health, illlness and cure in Zulu thinking is illustrated by the use of the word *muthi,* the literal translation of which means tree or shrub. Although it is used as a description of medicine, it can also mean curative substances (*umuthi wokwelapha*), or noxious substances (*umuthi wokubulala).* Whilst some forms of *muthi* cure, others do harm, and some will harm or cure depending on the motive that is used in their administration. Some forms of *muthi* are believed to be potent in their own right and require no ritual or symbolic language to be used, while others are symbolic and accompanied by special rites.

The word that is generally used for disease is *isifo.* However this can also mean misfortune, as well as being a condition of general vulnerability to misfortune and/or disease, and demonstrates the overlap that exists between the manifestation of a physical affliction with psychological or spiritual concerns. Illness and health care therefore fits into a complex construction that includes human motivation and spiritual concerns.

According to Ngubane diseases are also divided up into two broad categories. Firstly there are illnesses that are called *umkhuhlane,* and secondly there are illnesses described as *ukufa kwabantu*[131].

Umkhuhlane refers to an illness that "just happen". It is normal and biological, a part of aging, and caused by the malfunctioning of certain organs. This would include measles and mumps, seasonal diarrhoea, flu, and types of mental illness that run in families. They are not the result of personal malice or fault, and the *muthi* that is used are potent and effective in their own right, and don't

need to be ritualised. The understanding of these illnesses are common to all people, and there is therefore a readiness to consult modern/western healers for these conditions. The disease is identified by its symptoms and not its cause.

Ukufa kwabantu literally means "disease of the African peoples", and the illness is based upon Zulu cosmology. The interpretation of these diseases are bound up with indigenous ways of viewing health and illness. Some of these illnesses have ecological determinants related to the Zulu belief that "being in balance" with the environment is a state which makes a person less susceptible to disease and illness.

This "balance" is also important to establish between people. In this sense, social order is seen as an important determinant of health. A Zulu therefore conceives of health not only in terms of a healthy body but also as a healthy situation of all that concerns him/her.

Imikhondo on the other hand is translated as "tracks", and means the elements of a person or animal that is left behind. These elements may be undesirable and picked up by inhalation or contact, either by touching or stepping over. For example, certain wild animal tracks are believed to affect infants, who, because they cannot walk, inhale the *imikhondo* off the ground. One can take regular medication to protect a baby from getting this kind of *imikhondo.*

The action of stepping over a harmful *imikhondo* can lead to various disease or ailments collectively known as *umeqo.* Sorcerers may also place noxious substances deliberately in the way of a person who will then step over it and develop *umeqo.*

Illness can also be contracted from a diseased person who has discarded a substance which then hovers about in the atmosphere until it attaches itself to another person. Also, an area struck by lightning may contain dangerous fumes that cause green diarrhoea.

People considered to be vulnerable to environmental dangers are infants, strangers, newcomers to an area, and people who have allowed a long time to lapse between treatments. Ideally people are strengthened regularly once a year in the spring. People in a state of pollution such as the bereaved, the newly-delivered mother, and menstruating women are also susceptible to contamination and illness.

Sorcery is also an important cause of illness and is known as *ukuthakatha.* The intention of a sorceror is to harm somebody deliberately and it is this act that differentiates an illness that comes about from sorcery, from an illness that comes from the environment. A man for example may use potions to harm a wife's lover, who after having intercourse with her develops a condition known as *iqondo.* Some forms of sorcery however are not necessarily harmful. There are medicines for example that can be used to create or maintain love *(intando),* but only men are allowed to use them.

With these varied and co-existing models of disease and illness, it is not surprising that traditional healing systems incorporate a wide range of healers and treatments. This would include various forms of self-treatment that are akin to western folk remedies, and the use of older women, with experience in childbirth, as either informal or formal "traditional birth attendants" (TBAs).

Another loose grouping of non-biomedical healers are referred to as "faith healers", whose point

of departure is often Judaeo-Christianity. Healing is based upon faith in the power of God, and belief in the existence of various holy objects which can cure people of all kinds of ailments and disease. The extent and scope of "faith healers" in South Africa however, has not received much attention by reseachers.

However, there are two categories of traditional healers that are most prominent. These are the *sangomas* and the *inyangas*[132]. *Sangomas* can be loosely described as diviners or clairvoyants. They are usually female, and are people who have the ability to divine, and communicate with the ancestors. As a result they are able to identify spiritual or ancestral causes of misfortune and illness. Another characteristic of *sangomas* is that they are often "chosen" by the ancestors themselves. This choice becomes known through the appearance of certain signs that indicate possession by the ancestors. These signs are usually detected and confirmed by other *sangomas.*

Inyangas on the other hand can be loosely described as herbal doctors. They have a more physical orientation in their healing, and use various herb-based remedies. Often, *inyangas* are asked to prescribe treatment after the cause of the illness has been identified by a *sangoma.* Unlike *sangomas,* individuals can choose for themselves to become *inyangas* after which they undergo a period of training as an apprentice. *Inyangas* are often male, and the skills and knowledge that is required are often passed down from father to son. Many *sangomas* are also trained in the art of herbal remedies, and are therefore able to act as both types of traditional healer.

3.8 The evaluation of health services and assessing the quality of care

Assessing the quality of health care delivery is receiving growing recognition as an important component of the monitoring and evaluation of health programmes. A recent editorial in the South African Medical Journal said the following:

> *Questioning the quality of health care has not been part of the ethos of health care in this country. Even if quality issues were raised, health care providers seldom had the resources or inclination to do anything really constructive to change matters. Health care providers often believe that they are delivering the highest quality health care that they can under the circumstances, and until recently, doctors were rarely challenged. But times are changing. The efficacy, cost-efficiency and necessity of many health interventions are being questioned*[133].

This questioning of the quality, efficacy and cost-effectiveness of health care is a welcome development in mainstream medicine and health care. For too long there has been inadequate monitoring and regulation of health care delivery which has resulted in poor standards of care and costly inefficiency. According to the Institute of Medicine in the United States, the goal of quality monitoring is to make comparable quality assessment results routinely available to a variety of audiences, to identify deficiencies in health care provision and to correct them[134].

There is however no single definition or standard of quality that will suit all contexts, and all needs. For example, many of the currently used definitions of quality are geared towards developed countries where the emphasis may be on health care being a marketable product, and

patients as consumers. This is different in most African settings where health care delivery would be considered more as an unfulfilled human right.

Even within the United States it has been said that the quality monitoring work has focussed on profiling practices of individual health workers and reporting performance of health plans, with much less done to determine the quality of public health and preventative health services, or how systems off care function[135].

As well as this, standards of quality are relative. What may be considered to be acceptable and appropriate in one setting may not be so in another. This is partly because acceptable standards of care will depend on the existing health problems and the available resources. For example, poor standards of health care delivery for geriatric patients may be grudgingly tolerated in some settings because inadequate resources compel one to only monitor, support and improve health interventions in more prioritised areas of health such as maternal and child health.

In many developing countries, it is a lack of finances, infra-structural and human resources that are the crucial determinants of quality, rather than anything to do with health worker performance[136]. A review of African studies concluded that "performance deficiencies ..... may not always reflect a need for training. For example, most assessments identified logistic problems that limit the quality of service delivery"[137]. Quality assessment tools in developing countries must therefore adopt a more basic health systems and management approach that will help to identify structural problems such as an erratic drug supply system for clinics, or unreliable communication equipment.

This also illustrates the importance of evaluation tools being developed locally in such a way that the key issues are addressed first and foremost. It would for instance be pointless to assess the prescribing patterns of nurses when they only have drug supplies for six months of the year.

Assessments of quality should also occur at all levels of the health system, and involve all categories of health workers. However, because what is relevant to the clinic nurse will often be very different from what would be relevant to the tertiary hospital specialist even if they are part of the same health system. The assessment of quality must in other words be appropriate to the level of health care delivery, and relevant to the needs of the health worker.

When assessing an aspect of the health service, other considerations would include how quickly the assessment needs to be done. Often, assessments of quality are performed as one-off research projects rather than as routine aspects of health service management. However, the degree of sophistication and the extent of the evaluation will always depend on the availability of adequate human resources and time. In other words the process by which health services are evaluated must also be appropriate and cost-effective.

When designing an assessment tool one also needs to decide on whether or not to adopt a maximal (the gold standard), an optimal (the best possible within existing constraints), or a minimum standards approach. The choice amongst these various approaches will depend on the service, function, or programme that is being evaluated, as well as on the general state of the health services.

The question of who and what are to be sampled for assessment is another issue. For example,

it would not be possible to assess the quality of care of every single STD consultation in a health service. Sampling would therefore have to be performed in terms of the patients as well as the health worker concerned. If possible, sampling should be stratified according to appropriate categories so as to ensure a reasonably wide range of contexts under which quality of care is being assessed.

For example, it may be tempting when assessing the quality of clinical health care to only sample facilities that see more than a certain amount of the clinical condition that is being evaluated. For example, in the case of assessing the quality of STD treatment, it may be tempting to exclude those clinics that see only a small number of STD patients. However, the reason why these clinics are seeing so few patients may be because they offer a poor service, and patients have learnt to go elsewhere. It is precisely these clinics that need to be assessed, but risk being excluded as a result of bias withing the sampling process.

Related to this issue of sampling is whether or not the assessment of quality is being conducted to merely provide an *illustrative* view of quality, rather than a *representative* view of quality. Often, the purpose of assessing quality is not to obtain a total or complete picture of health care delivery as a whole, but to allow the identification of a few illustrative examples of poor (or good) quality that can then be used to establish new policy, or to create an environment of watchful concern that motivates everyone to perform better.

Some of the examples of assessment tools that have been used in Africa include the rapid evaluation method (REM) that was developed by the WHO between 1988 and 1991. This was a method designed specifically to identify operational and managerial problems in health care

delivery, in a way that was rapid and feasible[138]. In most instances, the evaluation provided information that was relevant to administrative officials at the central or provincial level.

In planning this tool, the WHO also ensured that the characteristics of REM would include a number of criteria which were considered to be important determinants of success. For example, the process involved the active participation of local health staff in the planning and execution of the exercise, and the findings of the evaluation were made available within a couple of weeks of the field survey, to be followed promptly by managerial decisions and actions.

In Spain, a large programme in quality assurance in Iberia, has also published what they consider to be key success factors in quality assurance programmes. These included the training of health workers in the problem-solving approach, starting small and building on strength, working through influential people, adopting a voluntary approach and fostering a sense of the need for quality assurance.

Another example of a quality of care assessment tools that were designed for developing countries came from the Africa Child Survival Initiative - Combatting Childhood Communicable Diseases (CCCD) Project[139]. They developed a Facility-Based Assessment (FBA) method to collect data designed to determine the extent to which children are properly diagnosed and effectively treated, and the extent to which caretakers are able to provide appropriate home treatment.

In order to do this, five activities are carried out at each facility:

þ Observation of health worker performance using standardised checklists which include measures of case management such as history taking, examination, diagnosis and

treatment;

- Exit interviews with mothers or other caretakers;
- Interviews with health workers and supervisors;
- Case record reviews;
- Inventory of essential equipment and supplies.

Although the FBA method produced a large amount of data on the quality of health care delivery, in many cases the identified shortcomings were due to logistical problems. According to some of the researchers involved, the method did not adequately address important health systems issues such as effective clinic management, staffing patterns, patient flow, staff relationships and community-clinic interactions. Therefore, while this FBA method provided a central core of data, it needs to be used with other techniques, some of which are yet to be developed.

One other method of quality assessment that was not inclusive of the FBA tool used by the CCCD Project was the use of group discussions, which is a method that has some important advantages. Sometimes, when conducting individual interviews with patients about their satisfaction with the quality of care received, the patient may tend towards giving answers that he/she thinks the interviewer wants to hear. In a group discussion however, patients are more likely to be more open and candid about their views and opinions.

Group discussions are also important methods to use with health workers, as a mechanism for getting health workers to be motivated and involved in quality assurance. Where quality assessments are performed as a purely external exercise, with or without mandatory requirements, the exercise is more likely to fail[140].

Finally, it is important to note that the concept of "quality" in itself should bear consideration. According to Maxwell, the term quality consists of six different dimensions[141]:

- Appropriateness
- Equity
- Accessibility (in respect of time, distance, gender and cultural matters)
- Effectiveness (the achievement of desired outcomes).
- Acceptability (or utilisation)
- Efficiency

This construction of the term quality deliberately looks at health care from a broad and non-biomedical perspective by bringing in social values such as equality, cultural values such as acceptability, and economic values such as efficiency and appropriateness. Given this broad definition of quality, it is possible that a health service which provides a high *standard* of clinical care may in fact be part of a poor *quality* health service if it disregards issues of equity and cost-effectiveness.

Other approaches may choose to assess a health service or programme in terms of its *functional capacity* (eg. training, equipment, staffing, supply), its *outputs* (eg. number of patients treated and cured), and its *quality of care* (eg. interaction between provider and client).

Donabedian on the other hand says that there are two elements to a health worker's performance: the technical and the inter-personal[142]. According to him, privacy, confidentiality, concern, empathy, honesty, and sensitivity are some of the qualities of good interpersonal skills, which acts as the vehicle by which the first element of quality is implemented.

However, despite the importance of the interpersonal process, it is often ignored in assessments of quality of care. This is partly because it consists of information that is not easily measured, and partly because the biomedical bias that exists within the field of health helps establish a pre-eminence of the technical aspects of health care delivery over the inter-personal aspects.

Others also contest that the inter-personal aspects of quality represent the "art" of medicine, which is unquantifiable in a scientific manner. While this may be partly true, it is wrong to say that there are absolutely no ways for objectively gauging how well a health worker relates to his/her patient. Although attempts to rate the attitudes of health workers by using variables such as whether the client was greeted or not, are probably too crude to be of value, rigorous methodologies can and need to be developed, and will probably have to incorporate open-ended qualitative approaches as well as a semi-quantifiable checklist approach.

Other studies have sought to measure the quality of specific and discrete health programmes (as opposed to individual clinical consultations). In Burkina Faso, a situational analysis of a family planning programme identified six fundamental elements of a family planning service that deserved for quality assurance[143]:

- the choice of contraceptive methods offered;
- the information given to clients;
- the technical competence of the providers;
- the interpersonal relations between client and provider;
- the means for ensuring continuous use;
- the range of other services available at the same time.

This illustrates how the nature of the service or programme being evaluated will also determine the key elements used to describe the elusive concept of quality of care.

3.9 Assessing the Quality of STD Care

The limited number of published studies on assessing the quality of STD services is probably a reflection of the years during which STDs were not regarded as a health priority. Now that the importance of STDs has been recognised, the evaluation of the quality of STD services has become an important topic.

This is illustrated by the fact that two out of the ten core prevention indicators for national HIV programmes that have been recommended by the Global Programme on AIDS (GPA), relates to the quality of STD case management[144]. These two indicators are: the proportion of STD consultations that have been "assessed and treated in an appropriate way", and the proportion of STD consultations who have received "basic advice on condoms and partner notification". (A full description of these GPA prevention indicators and their respective methodologies is provided in Appendix 2).

The method advocated for measuring these indicators is primarily through the observation of health workers managing individual patients. During the observation, a score (positive or negative) is given for each of the two indicators. According to GPA guidelines, "appropriate STD assessment and treatment are defined in terms of the health care provider's adherence to certain standards of in history-taking, examination and treatment", and that "basic advice" on the promotion of condoms includes discussing the use of condoms in preventing STDs and providing

basic instructions on condom use.

Because of the fact that despite having guidelines and explicit definitions of what is considered to be "appropriate" or "basic", such an assessment may remain largely subjective. If the use of scores is to provide for a quantitative measure of quality so that scores can be compared between facilities, or across a time period, then it would be important to test the robustness of the tool in terms of inter-observer variation. Similarly, the toll would have to make for allowances between different types of settings and environments. For example, in some clinics a three minute of sexual counselling may be appropriate whilst in others, where there is less pressure on time, a counselling session of lass than five minutes would be considered sub-standard.

A published study from Jamaica[145] also used the method of direct observation of STD consultations in order to assess the quality of the management of STDs in public sector clinics. This was complemented with performing an inventory of clinic resources, as well as with interviewing health facility staff. The inventory and staff interviews collected information on working hours, the number of specialised staff, the use of treatment protocols and laboratory services, and the available basic equipment, drugs and supplies.

The observation was performed with a checklist for the observer which measured performance in four areas: (1) history-taking and physical examination; (2) use of available laboratory tests; (3) prescription of treatment for specific diagnoses; and (4) education and counselling of STD clients. Each element of the case management process was also operationally defined.

For example, inspection of the male genitals was assumed to have taken place if the penis was

visually exposed to the provider. Treatment was compared with national STD treatment guidelines and classified "in accordance" or "not in accordance", and the patient was considered to have received a specific educational message if the pertinent information was offered by any one of the providers seen during the clinic visit. However, as with the GPA guidelines, such criteria are still open to some degree of subjective interpretation.

The study was conducted by five nurses and one physician and consisted of 115 observations of STD consultations involving 27 different providers from ten clinics. Three days were required for training, and data was collected over a two week period. Given the fact that there are 168 potential public sector service points for STD management, the coverage of the study in terms of health facilities was only 6.0%. However, because 85% of all recorded STD cases are seen at only 15 of the health facilities, the actual coverage in terms of consultations was much higher.

The study was able to identify areas of case management that needed improvement such as in taking a more in-depth history, providing better education and counselling, and in condom distribution. These findings were said to have been used immediately in the preparation of revised clinical guidelines and in training sessions.

However, there were several limitations with this study. The first relates to the inherent limitation of the method of information collection. It is likely that the performance and actions of the health provider being observed would have been influenced by the presence of the observer, such that an altered picture of normal and usual case management would have been observed.

A second limitation was the fact that the study was limited to only public health clinics. The

private sector was not included and neither were non-allopathic health practitioners. Furthermore, only a small sample of public health facilities were investigated. Even though a small number of clinics provided the bulk of STD care (82% of all cases are seen in nine facilities), there should be some kind of investigation into why STD care is concentrated in such a small number of clinics, as this would imply that the public are not making full benefit of all the available sources for health care. It may for instance be that the clinics with fewer clients are those with the lowest standards of quality.

Thirdly, a number of quality of care indicators were not measured or assessed. For example, information on the outcome of partner-notification, on patients who presented for treatment but who were turned away, on the quality and responsiveness of laboratory services, on the correctness of diagnosis, and on service accessibility, were not assessed.

These limitations indicate that although the use of a limited set of indicators can help to provide a meaningful and valid overview of case management, it is not sufficiently comprehensive to provide a valid profile of the STD service system as a whole. While indicators can provide a sensitive and timely signal of problems to programme operations, they are not a substitute for a fuller, in-depth operational study, or for a supervisory system that provides complete management information.

The use of a combination of an inventory of clinic resources, direct observation of STD consultations, and interviews with health facility staff was also used by the Kwazulu-Natal Department of Health to assess the quality of STD case management in public sector clinics[146]. A total of 55 clinics were assessed involving the observation of 217 consultations. Although it

suffered from the same limitations as mentioned above, it was able to assess and quantify some important problems.

Therefore, even though most of the problems could have been predicted (eg. stock-outs of condoms and drugs, a lack of health education material in Zulu, and the use of partial or ineffective treatment), the study was able to document these deficiencies which is of use when it comes to trying to get these deficiencies rectified. In other words through its documentation as part of a formal evaluation, the political process of advocating for change and improvement becomes easier, and it also provides a baseline for monitoring progress.

One of its major limitations however was the fact that the evaluation was conducted by a provincial department using dedicated personnel. The drawbacks of this are two-fold. First of all, such an evaluation may be better conducted by lower-level structures such as by the district or regional management team, because these are the authorities with a more direct responsibility for the quality of case management at the clinic level. Secondly, because it was a large Province-driven and vertical evaluation, questions remain as to whether it could be replicated again in time.

In a study from Senegal, health worker interviews were combined with a review of treatment cards to estimate the proportion of male patients who were receiving the correct antibiotic treatment for urethral discharge[147]. This study limited its an assessment of therapeutic effectiveness to only one STD category, and categorised each case as being either "good" or "reasonable". Despite its narrow focus, the study was able to identify an absence of clear management guidelines for nurses, a lack of training and supervision, as well as problems related to drug supply. This illustrates the point that sometimes you only need to evaluate a small part of

a larger service in order to be able to identify problems that need to be rectified.

Another evaluation with a narrow focus was a retrospective study of case records from Los Angeles which measured various criteria for the quality of care given to patients with gonorrhea, non-gonococcal urethritis and PID[148]. A rating of excellent, adequate or minimal was given for each of these criteria which included variables for the documentation of history, physical examination, laboratory examination, treatment, and provision for follow-up.

Despite the narrow focus and the limitations of retrospective case reviews (retrospective reviews may provide an incomplete picture due to the non-documentation of certain procedures or interactions), the study was still able to identify important deficiencies such as the under use of certain laboratory investigations and the frequency of incorrect treatment. However, the study did not investigate the reasons for these deficiencies existing. For example, it was not known whether the under use of chlamydial assays was because physicians doubted the worth of the test, or because of the delay it took to get the results.

Another more localised evaluation of the quality of care for STD patients was conducted at a single and dedicated STD Cape Town clinic[149]. The specific objectives of this study were to assess case management in terms of health education, condom promotion, partner notification and treatment. As well as this, patients were interviewed in order to assess their need for health education with respect to STDs, condom use and sexual behaviour.

Unlike in the previously described evaluations, the observation of case management was not used. Instead, a sample of patients who had already been seen by a clinic nurse or doctor was

immediately seen by a researcher in another room without the knowledge of the initial clinician. Data on the initial consultation was obtained by transcribing from the patient's record card and by an interview. Each patient was also re-examined, and urine, vaginal and cervical swab specimens were taken to perform tests on chlamydia, gonorrhea, trichomonas, gardnerella and candida.

The evaluation proved to be very successful in terms of highlighting certain major deficiencies in case management. For example, 83.6% (out of 170 male patients) were not told how STDs are transmitted, and only a quarter of patients were offered notification cards. In addition to this, it was discovered that clinicians had failed to detect and treat "most" genital ulcers in women, and had not detected or treated any candidal infections at all. In total, 25.9% and 60.9% of women left the clinic with at least one infection untreated which was due in part to the non-use of the syndromic approach. If a syndromic approach had been used, it was estimated that only 8.2% of men and 32.9% of women would have left with at least one infection untreated.

The study also illustrated the importance of assessing the quality of health education by first of all getting a picture of the knowledge and understanding of patients. In this study for example, it was found that 84% of patients believed that a woman holding her breath during intercourse could cause an STD - the implication of this is that such patients may be sceptical of any efforts to promote condoms unless this belief about STD causation is also addressed.

In another study that evaluated STD consultations, information was collected from a systematic sample of patients attending a number of rural primary level clinics[150]. One of the findings from this was the fact that a third of patients had admitted to continuing with unprotected intercourse

in the presence of a symptomatic STD. Once again, this illustrates the importance of understanding existing patterns of high risk behaviour before one is able to determine what forms of health education or promotion is appropriate or relevant.

This same study also conducted a rapid evaluation of the effectiveness of partner notification by noting the number of partner notification cards given out to STD patients, and measuring the number that returned. Out of a total of 191 cards given out, 24.1% were returned by the local sexual contacts who received them. Although this method does not provide an absolute measure of the effectiveness of partner notification (because some partners may have sought health care elsewhere, or without returning the partner notification card), it provides a simple method for monitoring a trend in successful partner notification and treatment. Because the success of partner notification is also dependent on the quality of counselling and education given to the patient, it can also be used as a proxy measure of the quality of counselling and education.

In a study of STD services from Cape Town[151], a combination of retrospective case record reviews as well as interviews with staff and patients was used. Throughout the study there was a strong emphasis on using a qualitative approach to problem identification. The benefits of a semi-structured or unstructured interview are that both patients and health workers are given the flexibility and latitude to express themselves freely without being constrained by the researcher's own objectives, as well as allowing them to make their own suggestions and recommendations for the improvement of the service.

Finally, despite encouragement from some members of the GPA[152], few studies have used the method of deploying field workers as "dummy" or "fake" patients/clients. One notable exception

was a study conducted in Durban to assess the accessibility of condoms for teenagers from family planning clinics[153]. Four teenage field workers were trained to approach twelve family planning clinics for condoms, and to record their experiences and perceptions. The training included improving role-playing skills, practice in observation and writing skills. As well as this the field workers were given a list of quality of service components to look out for in particular. This included collecting information on the physical accessibility of the clinic, waiting times, the presence or absence of posters and reading material on AIDS, the degree of privacy during consultation, the attitude of the clinic staff, the length of consultation and the information provided by the service provider.

Clinic staff were kept unaware of the study until all the clinic visits were completed. However, to prevent victimisation names of clinic staff were not recorded, and where possible, the findings were not attributed to any specific clinic.

Finally, it is worth mentioning one study that has attempted to evaluate STD services from a health systems perspective at the provincial level. This was an assessment of public sector and GP health services in the former PWV province, conducted by the Centre for Health Policy and the Medical Research Council[154]. The evaluation methods used were eclectic, and included key informant interviews, telephonic surveys, observations of consultations, case record reviews, and a review of routine statistics.

Having reviewed the literature, one of the striking points is the fact that such evaluations of the quality of care are nearly always conducted as one-off studies rather than as routine quality assurance activities of the health service.

4. STUDY SITE

This study was conducted in the Hlabisa health ward of northern Natal-Kwazulu, at a time when the health ward was administered by the Kwazulu Department of Health. The health ward is structured on a district health system model with a population estimated to be between 170,000 to 200,000.

In this health ward, there are four broad groups of clinical health care providers:

1. Public service doctors based at the hospital.
2. Public service nurses based at the hospital OPD and clinics.
3. General Practice doctors working privately.
4. Traditional Healers.

The hospital has a daily inpatient occupancy rate of about 400, and is staffed by eight medical officers from overseas, and about 250 local nurses. There are also seven residential primary level clinics operated by nurse practitioners. Eleven private practice GPs operate clinics in various places, of whom two also function as part-time district surgeons. Of these GPs only one is a black South African.

Traditional healers are common throughout the health ward, and mostly work from their homes. Although there is a local association of traditional healers, few of them belong to this, and there is no register of traditional healers for the area.

Each of these different groups of providers plays a part in the overall provision of health care to

the population. However, the relative importance of the different health providers with respect to the control of STDs is not known.

The population consists mostly of rural and traditional Zulu communities living in scattered homesteads or small villages. Within the health ward there is one formal peri-urban settlement with an estimated population of six to ten thousand. Unemployment is high in the area, although there is a sizeable migrant workforce from the area. Evidence of this is found in the consistently high birth rate during the month of September each year.

The overall health status of the population is poor with high rates of malnutrition, infectious disease and TB. The perinatal mortality rate of known deaths is about 30/1000 births, and the maternal mortality ratio is estimated to be in the region of 120 per 100,000 live births. An unlinked, anonymous HIV prevalence study amongst antenatal patients in the health ward in 1993 revealed that approximately 1 in 12 pregnant women were HIV positive.

5. METHODS

Data was collected in four different ways.

5.1 Semi-structured interview with health care providers.

Semi-structured interviews with a sample of the four groups of clinical health care providers were conducted. The sampling frame for three of these groups were as follows:

- All eight government service medical officers based at Hlabisa Hospital;
- All forty-five government service PHC or community clinic nurses;
- All eleven GPs working in the Hlabisa area.

From each of the first three groups, between five to six respondents were randomly selected. A semi-structured questionnaire (Appendix 3) was administered at their respective places of work. For some specific aspects of STD management information, which could lead to a simple intervention and improvement of the service, was collected from more members of the study population. For example, *all* the GPs were asked to provide information about their treatment schedules.

For the traditional healers, it was not possible to construct a sampling frame. For this reason, six traditional healers were selected using a "snowballing sampling technique". Although the same framework of the questionnaire was used, questions were made more open-ended, and inappropriate sections were deleted (Appendix 4). Additional questions and lines of enquiry were also necessary for the interviews with traditional healers, and care was taken not to impose a biomedical construction of STDs and illness during the assessment.

The questionnaire was applied by either the principal investigator of the study, or by a trained PHC Sister. The questionnaire was structured to gather information on eleven aspects of STD management:

1. The surveillance of STDs and the frequency distribution of different STD yndromes in the health ward
2. The knowledge, understanding and perceptions of health providers with regards to STDs and their management
3. The clinical skills of health providers with regards to history, examination, diagnosis and treatment
4. The availability and the cost of paying for health services
5. The quality of counselling and education provided to patients by health providers
6. The availability and promotion of condoms by health providers at health facilities
7. The extent and effectiveness of contact tracing
8. The extent of training and educational services for health providers
9. The extent of information and health education for the community and public
10. The provision of ante-natal screening for syphilis
11. The quality and adequacy of the health facility for the management of STDs

5.2 Simulation of patient with an STD.

In order to verify and validate some of the information collected from the interviews, a trained fieldworker simulating a patient with an STD was used to assess the service in terms of the

following aspects of management:

a. Diagnosis and treatment;

b. Accessibility of Service;

c. Counselling and patient education;

d. Condom provision;

e. Contact tracing.

The fieldworker was trained to keep a mental checklist of service quality indicators, and to transcribe the findings onto a standardised data capture sheet as soon as possible (Appendix 5). The fieldworker used was female, and care was taken to ensure that she did not undergo any embarrassing or invasive medical procedures. For example, if the health provider requested to perform any invasive diagnostic procedure, the field worker was instructed to politely but firmly refuse permission.

The fieldworker was trained to present herself with the following history, suggestive of PID:

> Five days of yellow, watery PV discharge that has now abated. A three month history of deep dyspareunia, occasional dysuria, lower abdominal discomfort, and a recent history of heavy and painful periods. She is nulliparous, and has a boyfriend who works in Durban.

This exercise was applied to six GPs and six clinic nurses only, and the identity of the doctor or nurse was only known by the field worker. The subjects were not informed of the exercise so as to prevent any artificial change in their normal management of patients with STDs.

Following the collection of information by the patient simulators, the health providers were informed of this investigation and given an explanation of the need for the study. Retrospective consent was obtained and the findings of the study discussed with all concerned.

Traditional healers were not assessed in this manner because we lacked adequate information about their normal scope of practice.

5.3 Structured interview with STD patients.

In order to explore some of the issues relating to health seeking behaviour and choice of provider, Seven semi-structured interviews (Appendix 6) with patients who presented to Hlabisa Hospital were conducted. The following issues were covered:

- Transmission, vulnerability and cause;
- Health seeking behaviour;
- Illness management by patient;
- Perceived quality of care from health providers;
- Understanding of STD complications and knowledge of prevention.

Although the choice of interviewer is important for the interview, and although ideally there should be one male and one female interviewer to minimise sex-bias, for logistical reasons, only one interviewer was used.

The interviewer was a Zulu PHC Sister who had been trained by the Medical Research Council

in research and interview techniques, and was the same person who helped conduct the healthworker interviews.

5.4 Collection of quantitative data

Quantitative information on the frequency distribution of STDs was collected from routine health service data. Routine monthly hospital and clinic statistics on STDs were surveyed over a period of three years to give an estimate of the number of STDs that present to the public health services, and in order to get more accurate hospital-based information on the different types of STD syndromes, an "STD register" was implemented for a period of five months.

Health providers who did not have a routine surveillance system, were asked to collect data on a specially designed form for a period of one month, so that a rough approximation of the distribution of the total STD workload in the health ward could be made..

In order to assess the efficiency of contact tracing, special contact tracing cards were designed for the study which were coded for specific health providers. Three GPs and five clinics agreed to record the number of contact tracing cards that were dispensed, and all health providers throughout the health ward were asked to retain these cards so that they could be counted for the purpose of this study. Contacts were defined as any sexual partner within the last 3 months *who lived within the area of the health ward.*

5.5 Analysis

The bulk of this study consisted of creating a descriptive assessment of STD management made on the basis of the semi-structured interviews. Qualitative data analysis was used for data reduction, summary and display.

Assessing the quality of drug prescribing was based on the premise that making a clinical or aetiological diagnosis of STDs without a sophisticated laboratory service would be inadequate, given the high prevalence of mixed and atypical infection. Therefore, only a "syndromic approach" to STD treatment was considered to be fully adequate.

The adequacy of the actual pescriptions was judged against the recommended treatment advocated in a number of publications: the Kwazulu-Natal Health Department STD Protocol, the Department of National Health and Population Development's "blue book" on STDs[155], the South African Family Practice Manual for 1994[156], the International Journal of STD and AIDS[157], and a special STD issue of *Medicine* (August 1993)[158].

Treatment was then classified according to five categories:

- Good - treatment prescribed is recommended;
- Sub-optimal - use of the correct drugs but at the wrong dosage;
- Incomplete - condition would only be partially treated;
- Poor - inappropriate prescription which would not treat the patient;
- Over-treated - unnecessary medication prescribed.

5.6 Ethics

Informed consent was obtained for all interviews and data collection. No names were attached to any of the information collected, ensuring confidentiality and anonymity.

The use of patient simulators to assess health care providers raised some difficult ethical issues because it depended on deceiving health workers into thinking that field researchers were in fact real patients. However, it was felt that this was possibly the only way to get true information on the normal and unaffected practice of health providers, and that the public health importance of STD management justified the method as a means of obtaining a "true" picture of the day-to-day management of patients with STDs.

The WHO's Global Programme on AIDS (GPA) section have furthermore written to suggest the use of people with "fake symptoms" as a technique for assessing the quality of STD management[159]. Following the collection of information by the patient simulators, the health providers were informed of this investigation and given an explanation of the need for the study. Retrospective consent was obtained and the findings of the study discussed with all concerned.

The protocol was approved by the Ethics and Higher Degrees Committee of the University of Cape Town.

6. LIMITATIONS OF THE STUDY

There are a number of limitations to the study which should be borne in mind when assessing the findings of this study.

- First of all, the study was largely based on the assessment of only a few practitioners from each group of health workers who were all located within one particular district of the country. It may not therefore consist of a representative sample of health workers in the district. The rural health district of Hlabisa may also be unrepresentative of other rural health districts in the country.

- The assessment of the quality of care was based on an assessment of only curative health care providers. There are many other role players who have an important role in the control of STDs, but who were not included in this study. These include Community Health Workers, school health nurses, pharmacists (who are known to prescribe antibiotics over the counter) and health educators. Assessing the quality of midwifery services with regards to STDs was also only done superficially.

- The non-health sector, with particular reference to the department of education, was also not assessed. Neither were the efforts for preventing and managing STDs of local occupational health and police health services assessed.

- In terms of quantifying the incidence of STD consultations in the health ward, only a few GPs collected statistics as requested. For some, only an estimation of the average number

of STD patients seen each week was made. Therefore, the final figure for the average number of STDs seen each month by GPs is a very rough approximation. Because of the relatively short period over which data was collected on the frequency distribution of STDs, the study was unable to assess if there were any seasonal or temporal trends in the pattern of the frequency distribution of STDs. This is particularly relevant to many parts of South Africa due to the phenomenon of migrant labour, which can cause large numbers of male migrant workers to return to their rural homes at various intervals, but particularly during the Christmas period.

þ The "snowball" sample of traditional healers is likely to have been affected by the bias of selecting traditional healers with a greater willingness to co-operate with the biomedical health sector, and who may therefore be more knowledgable about certain health issues, such as regarding the biomedical explanation of HIV transmission.

þ The interviews with the traditional healers would have been affected by the systematic bias of the interviewer having a biomedical background with a biomedical interpretation and framework for understanding. This problem would have been compounded further by the fact that the interviews were conducted through an interpreter, which represents another opportunity for misunderstanding or misinterpretation of the informant. A further weakness of the study was that the interviews were not recorded so that some of the questions and answers could not be double-checked after the initial translation had been made during the interview itself.

þ The nosology and explanatory models for disease and illness are complex subjects. In

order to be able to construct a traditional nosology of STDs, a much larger and more carefully selected sample of traditional healers would be required. Furthermore, it would be important also to perform validation tests of any initial findings, by re-interviewing some of the informants.

- The interviews with the traditional healers and with the GPs occurred as one-off events in most instances. For this reason it is possible that the interviews may have been affected by a lack of openness and trust between the interviewer and the informant, with the result that some of the responses may have been guarded, and not completely open.

- No cost or outcome data was collected. As a result of this the evaluation of the quality of care is based on a normative standard of quality that is derived from the literature. Without cost and outcome data, it is not possible to assess the quality of care in terms of cost-effectiveness.

7. FINDINGS

7.1 The frequency distribution of STDs amongst the different groups of health providers.

Estimates from the various sources of information indicate that approximately 1,600 consultations for STDs are made every month in the Hlabisa district within the biomedical heath sector. This figure is an estimate based on monthly average for the three groups of biomedical health providers. Although the statistics for clinics and the hospital were reliable, the figures estimated for the GPs was less so because of the lack of routine surveillance. For example, in some cases, a monthly average was calculated on the basis of only two weeks of data collection.

Of the estimated 1,600 patient visits, it was calculated that about 63% attend a GP, 33% attend one of the eight PHC clinics, and 4% attend the hospital (see Figure 7.1). A wide range in the frequency of attendances was noticed within the group of clinics (from 22 to 100 patients per month), as well as between GPs (from 50 to 220 patients a month).

Whilst GPs and clinics saw slightly more men, the hospital saw a greater proportion of female STD patients. Overall, for the given period of time during which the study was conducted, there were slightly more male STD patients than females (see Figure 7.2).

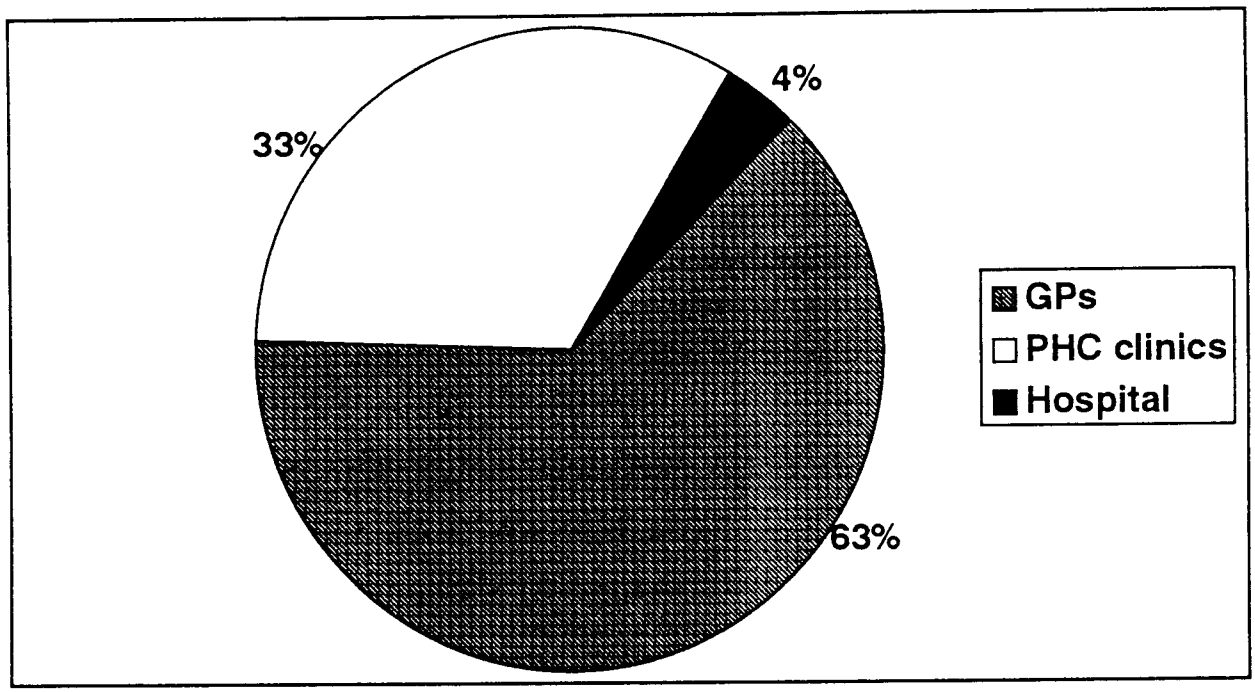

Figure 7.1: Frequency distribution of STD consultations at different sources of biomedical health care services in the Hlabisa district.

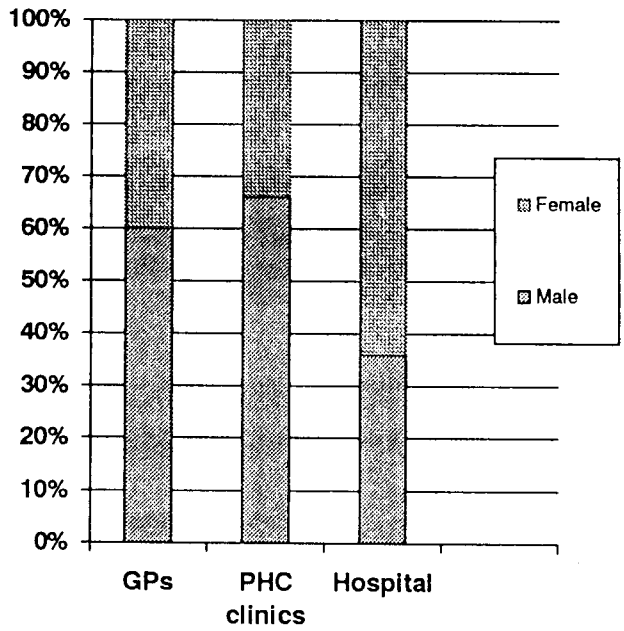

Figure 7.2: Variation in gender distribution of STD consultations at the different sources of biomedical health care services in the Hlabisa district.

In order to assess the types of STDs presenting to the various groups of health providers, 714 patients from four comprehensive PHC clinics, 325 hospital OPD patients, and 256 patients from five GPs were analysed and categorised according to three main syndromes: genital ulcer disease (GUD), discharge, and pelvic inflammatory disease (PID) for women. See Table 7.1, and Figures 7.3 and 7.4.

Table 7.1 Frequency distribution of STD syndromes among patients attending clinics, the hospital OPD and general practitioners in the Hlabisa health district

Type of STD	Proportion of patients (%)					
	PHC clinics		Hospital		Private GPs	
	Male	Female	Male	Female	Male	Female
GUD	40	31	41	19	49	16
Discharge	45	31	39	37	40	51
Both GUD and discharge	10	8	9	4	8	9
PID	-	12	-	32	-	17
Other	5	18	11	8	3	7
Total number of patients	473	241	118	207	152	104

The findings show first of all that GUD is very common. Approximately thirty percent of all the women had a GUD, and more than half (51%) of all the men had a GUD. Secondly, the findings showed a variation in the pattern of the frequency distribution of STDs both between and within the health provider groups.

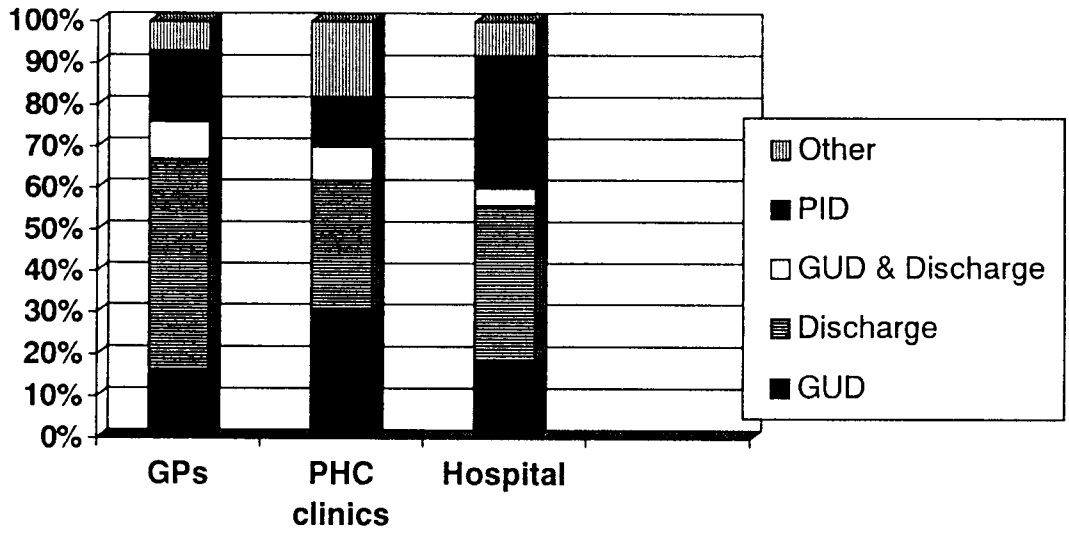

Figure 7.3: Frequency distribution of the different STD syndromes amongst men at the different sources of biomedical health care services in the Hlabisa district.

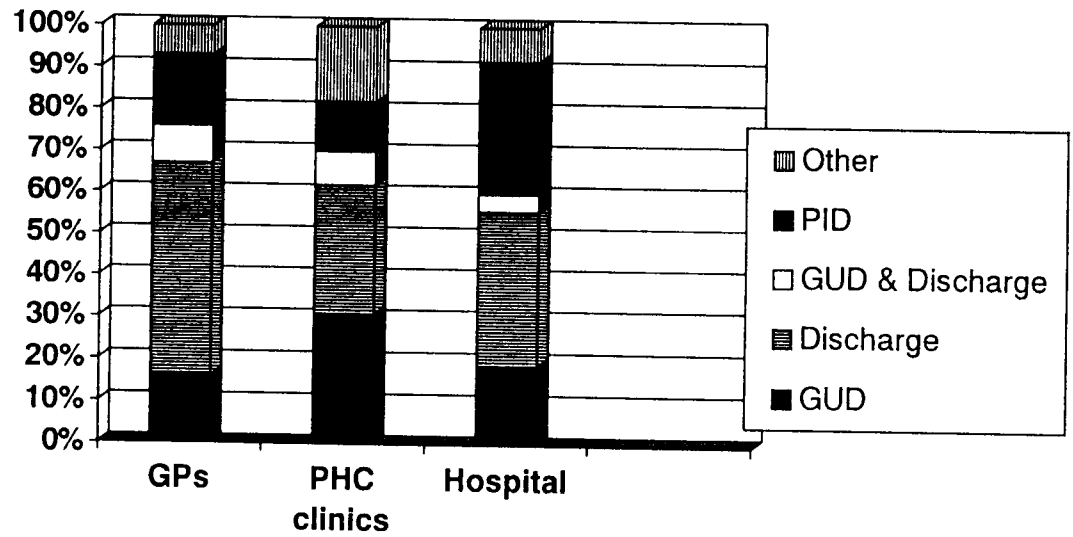

Figure 7.4: Frequency distribution of the different STD syndromes amongst women at the different sources of biomedical health care services in the Hlabisa district.

For example, the frequency of PID varied greatly from one health provider to another. Whilst 45% of female STD patients seen at one GP had PID, the figure was only 1% with another. In the clinics, nearly a third of female patients presented with a GUD, whilst this was the case with only 16% of the female patients seen by the GPs.

7.2 Findings from the semi-structured interviews with medical officers, clinic nurses and GPs, and from the patient simulation exercises applied to nurses and GPs.

7.2.1. Knowledge, understanding and perceptions of health providers with regards to STDs and their management

The knowledge, understanding and perceptions of health workers varied within and between the different groups of health providers. Although there was "sufficient" factual and clinical knowledge on STDs amongst the health workers, significant gaps in understanding remained, though on the whole, nurses and MOs tended to give fuller and more accurate answers than GPs.

Possibly the most serious gap in understanding was that the full relationship between STDs and AIDS was not adequately understood by nearly half the GPs who said that the association between STDs and AIDS was only due to shared behavioural risks.

Knowledge of the different types of STDs was reasonable, although some GPs and nurses did not mention PID as a specific STD. As PID is one of the four main syndromic categories for STDs, this is a significant omission, and supports the findings that PID was an under-considered and

under-diagnosed condition in several health facilities.

The importance of asymptomatic infection amongst the female population was also poorly understood by several GPs and MOs, some of whom actually thought that men were more prone to asymptomatic infection.

Whilst all health workers understood that HIV could be spread by sex, through blood, and by mother-to-child vertical transmission, there was considerable uncertainty amongst nurses and GPs about the role of breastfeeding as a source of HIV.

Knowledge of the important complications of STDs was reasonable, although only one GP mentioned cervical cancer and congenital disease, and none mentioned abortions or ectopic pregnancy. This gives the impression that GPs tend to have a male bias reflected in their STD work. Nurses on the other hand had a much more female bias with the most frequently mentioned complications being infertility, ectopic pregnancy, abortions, carcinoma of the cervix, and IUD.

GPs, nurses, and MOs all saw STDs as being one of the four most pressing adult health concerns along with HIV/AIDS, TB and maternal care.

In terms of understanding the cause and underlying factors for STDs, there was a marked difference in attitude between the public and private sector. The general belief amongst GPs was that everybody was at high risk for STDs within the black community. One GP said that amongst black women, a *"vaginal discharge could be considered normal"*. GPs generally felt that STDs were endemic due to sexual promiscuity which was considered almost a normal feature of Zulu

behaviour and social norms. For example, one GP explained that *"Zulus are very promiscuous .... it is just the way they are"*.

Most of the GPs also said that contraception was associated with higher rates of STDs as it promoted greater sexual freedom and promiscuity. *"Because they are not afraid of falling pregnant, they become more promiscuous"*. The stereotyping of Zulu behaviour and culture was not evident in the interviews with nurses and MOs.

However, most GPs also agreed that migrant labour was a factor, and some mentioned poverty and affluence, indicating that there was some appreciation of the socio-economic factors that are related to the epidemiology of STDs. Nurses and MOs were more sensitive to the social and economic factors influencing STD rates.

Nurses in particular were likely to name specific groups of people such as poor people and prostitutes. However their explanations for why these disadvantaged groups of society were prone to getting STDs were not always correct. One for example said that the unemployed get STDs because *"they have lots of unused energy which makes them have sex often"*.

Another nurse said that *"rich people who are able to bribe schoolchildren"* for sex get STDs commonly. This illustrated the concern that nurses had about the vulnerability of female schoolchildren.

7.2.2. The clinical skills of health providers with regards to history, examination, diagnosis and treatment.

When it came to the clinical management of STDs there were differences between the public and private sector. In the public sector, the syndromic management of STDs had been introduced for over a year, with a standardised protocol being available in the hospital OPD and all the clinics. Although the use of these protocols was not confirmed by direct observation, all the nurses and most of the MOs were able to recall the correct treatment for all the common STD syndromes.

Amongst the GPs there was no awareness of the syndromic approach, although their treatment schedules sometimes worked on the same premise that treatment has to be based on a "cover-all, shotgun" approach. Most GPs however attempted to make a clinical diagnosis and vary treatment accordingly.

The patient simulation exercise revealed that extremely poor histories were taken by GPs, and by nurses. Out of a total of twelve consultations, no inquiries were made of the number of sexual partners, the sexual behaviour of the patient's partner/s, condom use during intercourse, and issues related to casual sex, prostitutes, or sex in exchange for money, gifts or favours. Enquiries about post-coital bleeding, dates of the last menstrual period, painful periods and dyspareunia were only asked in either one or two of the twelve simulated consultations.

When it came to physical examination, most GPs, nurses and MOs said that vaginal examinations were performed either routinely or often on women presenting with a vaginal discharge. One GP explained that a physical examination was always necessary regardless of the condition because

that is what the patient expected, and keeping the client happy was part of the job. Speculum examinations were said to be infrequent, rare or never, for reasons of lack of time, instruments, or facilities for cleaning used speculums. However, in the patient simulation exercise, whilst most GPs made a request to perform a physical examination, only two of the six nurses did.

Few GPs perform routine microbiological tests. When tests were ordered, it was often for dubious reasons. One GP said that he would perform a urine test on a woman who presented with an ulcer but not for a man. Another said that he would perform tests very rarely for conditions that did not get better, and that it would be more likely for medical aid patients (this included taking blood for "gonococcal serology"). Another GP mentioned that medical aid patients would sometimes have swabs taken, but not cash patients. These swabs would be sent off in glass tubes without inoculation onto culture medium.

Because of the use of a syndromic approach, few microbiological tests are done for diagnostic purposes in the hospital or clinics. Although the protocol at the hospital stipulates that all patients with STDs should get a WR test, few of them do, mainly because patients would have to wait up to several hours for the result.

The clinical diagnostic capability of the GP was put in doubt by some of their answers to a question asking them to identify the most likely organism to cause a thick, yellow-green and frothy vaginal discharge: out of seven GPs, only two mentioned trichomonas. On the other hand, all of the nurses and most of the MOs gave trichomonas as the correct answer.

When it came to the patient simulation exercise, none of the nurses made a definitive diagnosis

of PID, and only two out of the six intimated that the problem was related to sexual intercourse. None of the nurses gave the patient simulators a clear explanation of what had caused or led to their condition. Only two GPs said that the cause of the illness was an STD, of whom one made a specific reference to PID.

Only one out of six GPs would have given effective treatment for PID. Of the other five, the prescribed antibiotics were either inadequate or poor. Only one out of the six clinic nurses would have given treatment appropriate for PID. However, because no explanation had been given by the nurses, it was not possible to tell whether the ineffective treatment was due to a wrong diagnosis or because of incorrect prescribing.

All the GPs tended to over-prescribe, with an average of 5.5 medicines prescribed per GP. Two GPs gave a total of six different medicines for the condition (see Table 8.2), and there was a heavy insistence amongst GPs on administering an injection even when the patient simulators made a deliberate point of saying that they did not want to be injected.

Amongst most GPs and some clinics, medicines were dispensed in a poor manner without any clear verbal instructions, and often without written instructions. In some GP cases the details provided on the envelopes or containers were either blank or illegible, and even with the help of a trained pharmacist it was impossible to identify a number of medicines. The patient simulators reported that none of the clinic nurses had clearly explained how the medicine should be taken (see Tables 7.2 and 7.3).

Table 7.2: Medication prescribed to simulated patient by GPs

	Envelope details	**Actual medidine**
GP A	Tetrex 2 qds x 5 days Flagyl 5 tablets Half a tablett - *no details* Indocid 1 tds x 10 days Liquid to be taken tds	Oxytetracycline 250 mg Metronidazole Ciprofloxacin Indomethacin 25 mg Potassium Citrate
GP B	Tetrex 2 qds x 5 days Flagyl 1 tds x 5 days Indocid 1 tds x 5 days Liquid to be taken tds Tube of vagarsol cream	Oxytetracycline 250 mg Metronidazole Indomethacin Potassium Citrate Diiodohydroxyquinoline cream
GP C	Flagyl 1 tds x 4 days Indocid 1 tds x 5 days Doxy 1 bd x 6 days Sodasal 100ml tds 1 IM injection	Metronidazole Indomethacin 25 mg Doxycycline *Unknown* *Unknown*
GP D	Tetra 2 qds x 1.5 days *Unlabelled 1 tds x 4 days* Bell 1 tds x 3 days DC *with no other specifications* x 7days Liquid x 1 bottle 2 different IM injections	Tetracycline Probably indomethacin *Unknown* *Unknown* Potassium citrate *Unknown*
GP E	Suncon 2 tds x 1.5 days Moxypen *with no instructions (10 tabs)* Lennacol 2 bd x 4 days Metazol 2 tds x 2 days *Unknown capsule (1)* SVC 1 nocte x 8 days Liquid to be taken tds x 2 bottles	Suncodin analgesia Amoxycillin 250 mg Chloramphenicol 250mg Metronidazole Unknown Unknown Potassium Citrate
GP F	Metazol 1 tds x 3 days NSAID 1 tds x 5 days Mist Pot Cit 100ml tds P/mol 2 tds x 1.5 days Be-oxytet 1 qds x 5 days	Metronidazole Indomethacin 25 mg Mis. Pot Cit. Probably paracetamol Oxytetracycline 250 mg

Table 7.3: Medication prescribed to simulated patient by clinic nurses

	Treatment given
Clinic nurse A	Econazole pessary, Amoxycillin tablets, Paracetamol tablets, and Potassium citrate.
Clinic nurse B	Flagyl 2g tablets, Amoxil tablets, Doxyphene tablets and Potassium citrate.
Clinic nurse C	Flagyl 2g tablets, Paracetamol tablets and Potassium citrate.
Clinic nurse D	Amoxil tablets, Flagyl 2g tablets and Potassium citrate.
Clinic nurse E	IM injection - *unknown substance,* Doxycycline tablets, one Ciprofloxacin tablet, Flagyl 2g tablets, paracetamol tablets and Potassium citrate.
Clinic nurse F	Amoxil tablets, Paracetamol tablets and Potassium citrate.

All health workers were also asked in the interviews to say what treatment they would prescribe for various typical STD presentations, the results of which are summarised in Table 7.4. Nurses as a group demonstrated the best knowledge of the correct treatment of STDs, and were most likely to volunteer information on alternative drugs for pregnant women.

Table 7.4: Quality of treatment that would be prescribed for typical STD presentations by sampled health care providers of the Hlabisa health district

Quality of treatment	Painful Ulcer (male)	Painful ulcer (female)	Urethral discharge (male)	Trichomonas discharge (female)	Yeast discharge (female)	PID	Total
	General Practitioners (n=9)						
Good	1	0	1	6	6	3	17
Sub-optimal	0	0	0	0	0	0	0
Incomplete	5	6	4	0	0	0	15
Poor	3	3	3	1	0	5	15
Missing data	0	0	0	2	3	1	6
	Clinic nurses (n=5)						
Good	5	5	5	5	4	5	29
Sub-optimal	0	0	0	0	0	0	0
Incomplete	0	0	0	0	0	0	0
Poor	0	0	0	0	1	0	1
	Medical officers (n=5)						
Good	3	4	3	5	5	3	23
Sub-optimal	1	1	0	0	0	0	2
Incomplete	0	0	2	0	0	1	3
Poor	1	0	0	0	0	1	2

When asked about what treatment they would give specifically for gonorrhea, four out of nine GPs said that penicillin was still appropriate. Nurses said that gonorrhea should be treated with a combination of doxycycline and ciprofloxacin, indicating that they were sticking to their syndromic approach, whilst MOs knew that penicillin was no longer considered an appropriate antibiotic for gonorrhea.

All GPs used penicillin to treat syphilis, apart from one who said that he used tetracycline or a

quinolone because, *"I don't like penicillin, because everybody else uses it too frequently"*, and because it didn't require a follow-up appointment for a repeat injection.

7.2.3. The availability and cost of paying for health services

In general, all health provider groups tried to make themselves accessible. Clinics mostly provided a 24 hour service throughout the week for all types of clients, whilst GPs provided a routine "8 to 5" from Monday to Friday and a half day on Saturday. A small number of GPs also provided an "emergency" out-of-hours service. As far as waiting times was concerned, the patient simulators waited an average of 55 minutes at the GP practices, and 35 minutes at the community clinics.

In the government sector, although the treatment of STDs is free, many patients continue to pay a R3 fee for consultation. Often it is because they are too embarrassed to tell the clerk that they have an STD, because fees are collected before the patient is seen and examined. The cost of R3 in the public sector is markedly less than the average fee of R31 for a GP (includes medication). The range of fees charged by the GPs went from R23 to R50.

Table 7.5: Fees charged by GPs for a basic STD consultation in the Hlabisa health district (in Rand)

	Treatment of an ulcer	+ follow-up	Treatment of discharge	+ follow-up
A	30	10-15	30	10-15
B	30	15	30	15
C	25-27	17	25-27	17
D	23	free	23	free
E	30	free - 20*	30	free - 20*
F	27	17	27	17
G	25	free	25	free
H	25	---	25	---

* The wide fee range for the follow-up visit of GP E was said to be designed to "cover costs", and would therefore depend on what treatment was required.

7.2.4. The quality of counselling and education provided to patients by health providers

All the health workers claimed to routinely counsel and educate their STD patients. Amongst the GPs, at least half of this is done by nurses or assistants working for the GP. MOs also said that they arrange for a nurse to carry out most of the counselling.

The content and emphasis of the counselling varied from one health worker to another. On questioning, nurses *appeared* to be more comprehensive in the counselling, covering eight out of ten listed issues, compared with an average of about six for the GPs and MOs.

However, the simulated patients experienced very poor counselling. None of the GPs gave an

explanation of what was wrong, and there was no mention of the cause and means of spread of STDs, encouragement to practise monogamy, encouragement to avoid casual sex, advice to abstain from intercourse until healed, or advice on the risk of HIV/AIDS and other complications such as infertility.

Of the two nurses that had made a diagnosis of an STD, counselling was equally poor. Neither of them counselled the "patient"on safe sex, treating partners, or the risk of AIDS and other complications. Only one counselled the simulator to abstain from sex until cured, whilst the other was the only nurse to promote condoms. The other nurses provided no counselling at all.

7.2.5. The availability and promotion of condoms by health providers

All the health workers said that they encouraged the use of condoms, and that the availability of condoms was not a problem. In the patient simulation exercise however, none of the GPs promoted or provided condoms, and only one of the six nurses promoted them. However, even this one nurse could not actually provide any because she had run out of her supply!

Half the GPs also said that they had never demonstrated to a patient how to use a condom in the previous month, as was the case with nearly all the nurses and MOs. Nobody had dildos available for such demonstrative purposes.

7.2.6. The extent and effectivenes of contact tracing

All health workers recognised contact tracing as an important part of STD management, and nearly all claimed to routinely ask their patients to encourage partners to come for treatment. However, neither of the two patient simulators were told to encourage their sexual contacts to come for treatment by either the GPs or the nurses, except for one of the nurses who had made a diagnosis of an STD.

Contact tracing cards were available at clinics and the hospital but a few MOs did not use them because they did not consider them to be effective. Most of the GPs were cynical about contact tracing. However, one GP said that he found it easy to trace sexual contacts by asking the index patient to tell her/his contacts that the he wanted to see him/her because of a *"urine problem"*.

The definition of a "contact" was ambiguous, and some GPs would only include regular partners or wives. Most others would consider that only sexual contacts from the previous two to four weeks required treatment. One GP would ask the patient to work out who he contracted the STD from and then ask him/her to refer that particular person.

From a sample of 389 patients who were treated at five clinics and three GPs, service providers gave out an average of 1.2 cards per patient, but received only an average of 0.2 cards back. There was considerable variation between service providers in the numbers of cards given out, the highest being 1.6 and the lowest being 0.6 cards per patient. The percentage of returned cards also varied significantly between different health providers. In neither case was the distinction between clinic and GP a factor.

7.2.7. The extent of training and educational services for health providers

None of the GPs had received any formal training or education on the management of STDs in the last two years. Nearly a half of the nurses and MOs had. Meetings and discussions about STDs were held regularly amongst the hospital doctors.

GPs mentioned journals, the Department of National Health's "blue book" on STDs, and a recent Medical Association of South Africa conference leaflet as sources of information on the correct management of STDs. GPs did however say that they would value updates and new information on STD treatment with particular reference to treatment protocols and resistance patterns. Nurses also stressed the need for continuing education and information.

7.2.8. The extent of information and health education provided for the community and public

None of the GPs or nurses had taken part in any activities aimed at providing community education despite the fact that they all rated it as the most important health activity for reducing the numbers of STDs. Nurses complained that they did not have the time or staffing levels to work in the community, although some had recently organised activities for World AIDS Day involving members of the community. Some GPs felt that community activities were not part of their job.

Of the GPs that were visited, most had health promotional material visible in the waiting areas.

However they were often in English, related to drug-company advertising, and concerned with inappropriate health issues for the Zulu population. This was exemplified by a clinic in Mtubatuba which had the following posters and leaflets: posters on osteoporosis and hormone replacement therapy, and leaflets on AIDS, cholesterol, and heart disease.

Of the six community clinics that were visited, two had no form of visible health promotional material on the issue of AIDS or STDs. The other four clinics had between one to three posters on AIDS and condoms, but nothing specifically related to STDs. In none of the clinics were leaflets on STDs or AIDS made available to the patient simulator.

7.2.9. The provision of ante-natal screening for syphilis

The concept of screening all patients for STDs by being pro-active about probing for symptoms and signs is non-existent amongst all groups of health providers. For example, women who are seen at antenatal or family planning clinics were not routinely asked about symptoms of STDs, or about recent exposure to STDs.

The only form of routine STD screening was for syphilis amongst antenatal patients at the hospital and clinics. Although all GPs see ante-natal patients, only two routinely screened for syphilis, one of whom only screened medical aid patients, and one who gave all pregnant women a seven day course of penicillin routinely.

7.2.10. The quality and adequacy of the health facility for the management of STDs

The physical quality and comfort facilities for STD consultations varied considerably from one health service facility to another.

In all the clinics it was theoretically possible to conduct a consultation in a private room. However, clinic nurses said that in practise, this does not always happen because of the need to share the same room with other activities.

Paradoxically, the hospital had the poorest consultation rooms of all the public sector health facilities. These amounted to small open-plan, cubicles that offered no privacy at all, and which were often shared by another nurse.

Most GPs have a main clinic in one of the provincial NPA towns which were very reasonable, and sometimes even air-conditioned. Nearly all of them had two sections that would separate the medical aid patients from the cash patients.

However, many GPs also held half-day clinics in some of the more rural areas, and here, the facilities left a lot to be desired. Some consisted of single bare and grubby rooms which were dark and dingy, and where there may even be missing panes of glass in the window. There were inadequate examination facilities, and there were no facilities for managing an anaphylactic reaction.

One such room had a small wooden table and a single narrow bench as the only pieces of

furniture. If patients needed to be examined they would either have to lie straddled across the bench, or lie on the floor. In another room there was an examination couch, but no bed linen.

7.3 Findings from semi-structured interviews with six traditional healers

Table 7.6: Profile of traditional healers interviewed

	Age	Sex	Inyanga?	Sangoma?	Spiritual healer?	Literate?
A	45	M	yes, for 10 yrs.	yes, for 15 yrs.	No	no
B	45	F	yes, for 23 yrs.	yes, for 24 yrs.	yes, for 25 yrs.	yes
C	24	F	yes, for 6 yrs.	yes, for 8 yrs.	yes, for 5 yrs.	yes
D	35	F	no	yes, for 5 yrs.	no	no
E	30	F	no	yes, for 14 yrs.	yes, for 14 yrs.	n.a.
F	70	M	yes, for 40 yrs.	no	no	no

7.3.1 Listing and describing diseases associated with sex

When asked to name and describe illnesses that were "associated with sex", a wide range of symptoms and signs were given. In general, there appeared to be a significant amount of variation and inconsistemcy between the traditional healers who were interviewed, and the following paragraphs summarise some of these findings.

Izilonda, for example, was described by all of six healers as a condition characterised by sores, but which may be associated with swollen inguinal lymph nodes according to one. Although there are different kinds of sores (ie. painless sores, painful sores, sores that bleed a lot, sores that are fleshy, etc.), they all seem to be called *izilonda.*

Whilst *thola or ukuvuvukala kwezimbilaphu* is a term used to describe swollen inguinal lymph nodes by some, *thola* was also used to describe a sexually associated disease that caused swelling of the body or abdomen.

Four healers said *umhluma* was a genital disease that was descibed in a way that resembled genital warts. Two of them said that it could also be associated with a discharge. On the other hand, nurses at the hospital have known for patients to come to OPD complaining of *umhluma*, but who demonstrate no clinical signs on examination. Finally, another traditional healer described it as a condition affecting the prepuce of young males aged less than fifteen years. These boys would inherit the condition from their mother, who would have got the illness through a sexual act.

Nearly all of them however consistently described *ovuzayo* as the "drop", which is a slang term used to describe urethral discharge. However, two of them also used the term to describe female symptoms such as vaginal discharge and heavy periods.

Other terms were given to describe sexually associated diseases that caused non-genital signs and symptoms such as rashes, headache, cough, impotence, dyspareunia, abdominal pain, ulcers around the mouth, and even nose bleeds. Because these signs and symptoms can be the consequence of several aetiological factors, the cause of non-specific complaints such as headache

would often be made by divination.

With some traditional healers, TB was also mentioned as a disease that could also be transmitted sexually. For example, one healer described *umhluma* as an illness that is contracted by sexual intercourse. If that person then sleeps with another, that person can get TB. Another traditional healer said that the same sexually transmitted disease that causes lower abdominal pain could also cause TB in others. He also explained that not everybody contracted TB through sexual intercourse as there were other ways, such as drinking too much alcohol.

There was also a belief by five of the healers that people can be infected with a sexually associated illness without signs or symptoms of being ill. However, there appeared to be no clear agreement about which groups of people may be prone to asymptomatic disease, or why.

When asked to list the important complications of STDs, the most common unprompted answer was death. Three described congenital disease (sores over the body of a newborn), and two described HIV disease, abortions, urethral strictures, infertility and tuberculosis. Diarrhoea was mentioned as a complication by one traditional healer.

7.3.2 Causation and Transmission

Amongst the small sample of traditional healers there was a variety of explanations as to what caused the various illnesses and symptoms noted above, how they are contracted, as well as why a person becomes ill.

In many instances, although the diseases are contracted sexually, this may be the result of various spells or medicines. *Isichitho* for example is a disease caused by a spell that is purchased from an *inyanga.* Although the illness is caused by the spell, it is transmitted sexually.

One common way by which the spell is transmitted sexually was described by all the informants as follows: First of all, a man will decide to procure a spell that is designed to protect and prevent his female partner from infidelity. The spell is obtained from an inyanga in the form of a potion to drink. After drinking the potion, the man will sleep with his partner who then absorbs it through the act of intercourse. If this woman then has sex with another man, either she, the man, or both of them, will become diseased, often manifesting as genital lesions.

According to the informants, this spell can only be procured and transmitted to the opposite sex by a male, and not the other way round. Interestingly, one traditional healer said that he never made these types of spells or potions as he believed them to be unethical.

Other diseases can be picked up from the environment. For example, a genital disease can be contracted by passing urine on the same spot as someone else who had an STD. *Imibhulelwa* is a disease contracted when a medicine called *intelezi* is put on the ground such that when a person walks over it, he/she develops a genital condition. Therefore people can get genital conditions without having sex.

Another cause of disease mentioned by a number of traditional healers was various tablets and pills, such as Disprin. According to the informants it seems as though tablets are particularly likely

to cause genital disease if they are not taken simultaneously by both people within a sexual relationship. Contraception in the form of both pills and injections were also mentioned as causative factors by a majority of the traditional healers. One explained that contraception could cause disease because it stopped women from menstruating, and caused blood to accumulate in the uterus and which would eventually turn into pus.

Most of the traditional healers associated disease with certain types of behaviour. One said that *"bad behaviour"* was the main underlying reason for why sexually associated diseases were so common, and others mentioned the tendency for people to have different sexual partners. One said that disease could be caused by sleeping with someone from a different racial group and said that *"in Empangeni, women who had slept with foreigners experienced fish coming out of their vaginas"*.

Disease that is passed on from mother to child was also mentioned. Another healer said that babies could inherit sexually transmitted diseases from their mothers but which would only become apparent in adulthood.

The multiplicity of causes for a single manifestation is illustrated by the various explanations for infertility. Although infertility was a complication associated with certain sexually associated diseases, other explanations for why some become infertile included : *"being born like that"*, *"due to ancestors, "having weak blood during menarche"*, the mother passing it onto her child at birth, the position of the uterus, and due to the weak sperm of the man.

Throughout the interviews there was also an emphasis on young, sexually active people who had

multiple partners, or who had sex outside marriage. There was also a common appreciation of the fact that poverty increased disease because sex was a way for women to get money, clothes and social support. Migrant labour was seen as an associated factor by five of the traditional healers, but one said that this wasn't a factor because men could protect themselves from STDs when they were away by taking herbal medicine. All agreed that affluence was a factor because having lots of money made it easier to engage in multiple sexual relationships.

Finally, one healer said that the cessation of the tradition of bleeding young girls before puberty to prevent them from becoming "hot" and promiscuous, was a cause for women having many partners, and led to disease.

7.3.3 *Ingculazi* (HIV/AIDS)

When the issue of HIV/AIDS was investigated, the traditional healers were asked to describe their understanding of *ingculazi*, which is the commonly used Zulu term for HIV/AIDS. Their responses to this inquiry are summarised here:

A: Had heard about it, but did not know what it is, or its cause. Had never seen a person with AIDS and therefore could not describe any signs or symptoms. Understands however that healthy people can have it.

B: Did not know about it, but had heard from the hospital that it is sexually transmitted with signs such as weight loss, pallor and chronic cough. Was not sure if a healthy person could have the disease.

C: Described it as a sexually transmitted disease characterised by weight loss, discharge, cough and sores all over the body. People with the disease were said to always look sick.

D: Described it as a sexually transmitted disease characterised by sores, a wide walking gait, stains on the clothes, and abdominal pain. Can also cause TB. Said it was an old illness of long ago, and that *ingculazi* was just a new name for it . It became symptomatic only after patient had had it for a long time.

E: Described it as sexually transmitted, causing weight loss and death. Person could be asymptomatic with it.

F: Did not know what it was despite having heard many different things about it. Felt that it was confusing, and did not know if it was possible to have the disease without being symptomatic.

All the traditional healers knew that *ingculazi* was associated with sex, and one explained that for males with many sexual partners, it was "like a fire" amongst them. All of them also said that it could be transmitted through the practice of scarification. Most of them said that they used one blade per person for scarification for this reason. Although one said that he used the same blade for more than one person, he put the blade in herbal medicine for a week so as to clean it before using it on another patient.

Two said that *ingculazi* could be transmitted by sharing a cup with an already infected person, and one said that it could be transmitted through coughing or sitting together in the same place as an HIV Positive person.

In terms of cure, two traditional healers said that it was not curable, two said that they did not know, and two healers said that they and others could cure *ingculazi* (HIV/AIDS).

7.3.4 Diagnosis, Examination and Treatment

When asked to describe how they would manage a patient with an STD, the traditional healers who were interviewed used a word called *imbiza* to describe treatment made from herbs and tree bark. *Imbiza* is a generic name for all herbal treatment, but the composition of the *imbiza* will differ according to the condition, and from one traditional healer to another.

They explained that different traditional healers use different herbal preparations, mostly depending on how they were trained. Those that were taught by the same trainer would use the same treatment. Apart from the composition of the treatment, there were also variations in the preparation and administration of the herbs.

The differences between different traditional healers was also said to be regionalised to a certain extent. Several informants said that the differences between healers from within the Hlabisa district would be less than the differences between a Hlabisa inyanga and a Durban inyanga for example. It is because traditional healers use different treatments that there are sometimes referrals made from one traditional healer to another.

When asked to describe what treatment they would administer to a patient presenting with a genital sore or a discharge, the following responses were given:

A: For **ulcers** and **discharge** the treatment is to give *imbiza* as a drink (daily for a week) and as an enema (alternate days for a week). For sores a topical application is also given. If

there are associated **inguinal lymph nodes** then an additional medicine is given.

B: For **ulcers**, a green herbal medicine is given to drink (for 5 days), and as an enema (once). For the **"drop"** another herbal medicine is given to drink (for 3 days), and as an enema (once). For swollen **inguinal lymph nodes** a herbal medicine is used.

C: Diagnosis starts with prayers to the ancestors by which she divines the reason for the consultation. Only after praying will she examine and treat the patient.

For **ulcers** a herbal medicine is given to drink, to be taken as an enema (daily in the morning), and to wash topically around the genitalia. For **discharge** a herbal medicine is given to drink, and to be taken as an enema. For swollen **inguinal lymph nodes** a herbal medicine is used but is administered by a way called *insizi*: granules of medicine are mixed with water and put onto something like a saucer; this medicine is then licked off the fingers of the patient. Some of this medicine is also placed onto the back of the hands and then licked off.

D: **Sores** are treated with *imbiza* which is taken orally (3x/day) and as an enema (2x/day) for a duration that depends on the severity of the condition. The same *imbiza* will be used for different patients with different types of sores. **Swollen inguinal lymph nodes** are treated with *imbiza* taken orally and as an enema, as well as with *insizi* (see above).

E: The diagnostic procedure for this sangoma and faith healer begins with a "prayer" in which she will try and communicate to the ancestors. The ancestors will reveal to the sangoma the problem and its cause. This will be done before the patient even presents his/her condition.

For **sores** the treatment is *imbiza* taken orally and as an enema. She will then tell the patient to go to the hospital for an injection before starting the traditional medicine. However the patient is not to use tablets from the hospital because her *imbiza* does not

work with western medicine. A **discharge** is treated with *imbiza* taken orally and as an enema, as well as with *insizi* (see above).

F: **Sores** are treated with *imbiza* taken orally amd as an enema, as well as with a topical ointment that is made from the fat of an *inhlawati* (a lizard). A **discharge** is treated with *imbiza* taken orally (but not as an enema), as well as with a topical application. Swollen **inguinal lymph nodes** are treated with *imbiza* taken orally and as an enema, as well as with a medicine that is *ncinda*. On top of this, razor-blade cuts (*chaba* marks) will be made on the swollen lymph nodes followed by a topical ointment.

Most of the healers said that the availability of the necessary trees and herbs was not usually a problem. These could be got from the forest or from various local markets. Sometimes however trips would have to be made to the Swazi border, although according to one inyanga, some healers are too lazy to collect the correct herbs, or to make the correct preparation.

When it comes to physical examination, some healers would examine all patients, but some would not examine women out of of respect. Sometimes female apprentices are used for the purpose of examining women.

If a patient does not get better, four healers said that they would be happy to refer to the hospital, or to a GP. One sangoma said that she always refered patients to the hospital but said that patients do not like to go there because of the lack of privacy, and the association of STDs with HIV/AIDS. Occasionally she will therefore refer to GPs who offer more privacy. Two of the healers however said that they never refered any of their patients because they always got better.

7.3.5 Accessibility of Traditional Healers

The cost of treatment as disclosed by the informants, varied from one traditional healer to another, but was generally found to be higher than the cost at GPs. The findings are summarised in Table 7.7.

Table 7.7: Cost and opening hours of traditional healers

	Ulcer tx.	Discharge tx.	Price per condition?	Opening hours
A	10 R	10 R	Same price until condition healed.	Anytime - works from home.
B	100 R	20-30 R	Same price until condition healed.	Anytime - when available.
C	200 R	200 R	First fee 20-50R, and the rest when cured.	Anytime except Saturday when available.
D	65-70 R	65-70 R	First fee 15-25R, and the rest when cured.	Anytime - when available.
E	50 R	50 R	First fee 1-2R, and the rest when cured.	Anytime - when available.
F	10-20 R	10-20 R	Same price until condition healed - refund if not.	Anytime - when available.

7.3.6 Counselling

Five of the six informants said that counselling and health education was a routine part of their

management. Messages that were emphasised included the importance of safe sexual partners, drug compliance, the regular use of herbal medicine to keep the body healthy, and the importance of abstaining from sex whilst still ill. When asked what resources may be useful to help them fulfil this role of giving advice and education about sexually associated diseases, they all mentioned that leaflets in Zulu about STDs and AIDS.

7.3.7 Condom Promotion

All of the traditional healers said that they knew that condoms were used for disease prevention. However, only two said that condoms could also be used to prevent pregnancy. When prompted, two said that they could not prevent pregnancy, and two said that they did not know. All but one of the informants said that they encouraged the use of condoms. These traditional healers also claimed to give condoms to their patients, from a supply that they got from the hospital. Four of those who supplied condoms said that they physically demonstrated how condoms are supposed to be used.

Most of them however explained that condoms were not used commonly partly because men like to have *"flesh-to-flesh"* sex, and because of worries that if the condom bursts, it may be left in the woman's body for ever.

7.3.8 Contact Tracing

When it came to contact tracing, half the informants said that they did not see a need to initiate consultation or treatment of the patient's sexual partners. Of the other three however, two routinely asked for the sexual partners to come, but the other said that he would only ask for the patient's "straight or main" partner to come, and not bother about "the girlfriends".

7.4 Findings from semi-structured interviews with six patients.

Table 7.8: Profile of patients interviewed

	Age	Sex	Education std.	Employed?	Presenting complaint	Duration
A	29	M	Standard 3	Y	Penile discharge	1 day
B	27	M	Standard 7	N	Penile ulcers & burning on micturition	1 week
C	22	M	Standard 9	Student	Penile ulcers & discharge	3 weeks
D	45	M	Never schooled	N	Penile ulcers	2 weeks
E	23	F	Standard 3	N	Vaginal discharge & burning on micturition	2 weeks
F	17	F	---.	N	Vaginal sores & discharge	7 weeks
G	26	F	---	N	Vaginal sores & discharge	3 days

7.4.1 Cause of present condition and STDs in general

When asked to explain the cause of their presenting illnesses, a summary of the answers given were as follows:

A: Slept with a woman who was not his "straight" girlfriend.

B: Slept with somebody - thought that it might have been a girlfriend from Johannesburg.

C: Slept with "one of his girlfriends".

D: Caused by *umeqo*. Claimed that he was not sexually active, and thought it was an old problem caused by people making bad wishes against him.

E: Did not know, but thought she may have got it from her boyfriend who works in Johannesburg, but who came back a month ago.

F: Did not know, but was told by a spiritual healer that the condition came from a spell that had been cast by the ex-girlfriend of her current boyfriend. The spell was cast in the form of some medicine that was placed near her home, and over which she walked (*umeqo*).

G: Contracted the condition from her boyfriend.

When prompted about various aetiological factors for STDs in general, three patients said that *umeqo* did not cause STDs, one said maybe, and three said yes. One patient even believed that two previous neonatal deaths that she had suffered had been caused by *umeqo*. When asked whether people making bad wishes or casting spells could cause STDs, three said no, and four said yes.

As far as taking certain types of pills was concerned, three of the informats said that certain tablets could cause STDs. Disprin was given as an example twice, and another patient who mentioned laxatives also made the point that it was most likely when one person in a sexual relationship takes medicine while the other doesn't. However, only one patient said that contraception could cause STDs, although three others said that they "did not know". Finally, only one of the patients said that upsetting ancestral spirits could cause a STD.

7.4.2 Health Care Seeking Behaviour

The length of time it took for these patients to present to the hospital varied from one day to seven weeks, with three of them having taken more than ten days before getting any form of biomedical treatment.

Several explanations for delays were given, and included one patient who said that financial constraints had his delayed presentation to the hospital, and that he had not realised that STD treatment was free.

One informat explained that her delay had been because she had been taken to a sangoma by her parents, and that she had also been to an inyanga, a clinic, and a private doctor three times. She said that the sangoma had divined the cause of her illness as *umeqo*, and was the reason for why she had then gone to see an inyanga. The reason she went to the private doctors three times was because they give injections, and she said that she was unhappy that the PHC clinic did not give her an injection.

When asked if it was always necessary to see a traditional healer for STDs, these were the responses given:

A: Yes, especially if you have swollen lymph nodes which is an illness caused by *umeqo*. However, the doctor can help if you are suffering from the "drop".

B: If the cause of the STD is a form of bad Zulu medicine that has been used against the patient, it is necessary to see a traditional healer. However, if it is a straightforward STD that has been contracted from a sexual partner, then you can get treatment from the doctor. It may be necessary to see a sangoma in order to discover the cause of the illness before seeking treatment. If there is jealousy or sexual rivalry that is obvious and known, then consulting a sangoma may not be necessary.

C: Not always (no further explanation was obtained).

D: No, health providers are all the same.

E: No, I do not believe in Zulu medicine. Traditional healers never examine their patients, are ineffective, and even dangerous. On the other hand, modern doctors examine and even take blood tests, and then treat on the basis of their findings.

F: Yes, because from past experience I have found traditional medicine to be more effective than modern medicine.

G: No, I am is scared to go to traditional healers because it is discouraged at home.

When asked to specifically explain the disadvantages of traditional healers, cost and expense was mentioned by three of the informants, whilst another complained that the treatment procedure with traditional healers was long and complicated, and also that it was embarrassing to be seen

consulting a traditional healer.

When asked specifically about hospital treatment, one informant said that she came to hospital first because she hoped to get an injection, whilst another complained that the hospital would not give injections. Advantages of the hospital were that it was cheap, that there was a more thorough clinical examination, and because blood tests were occasionally performed.

When asked specifically about GPs, all the patients complained about the expense. However, two advantages of GPs were that they provided a quick and confidential service, and that they were more likely to give injections.

When asked about clinics, the advantages were mostly related to the fact that they were cheap. However, disadvantages included the problem of clinics occasionally being out of stock with drugs, and that nurses were reluctant to give injections.

Some of the informants also explained that their health care seeking behaviour had been influenced by previous experiences. For example, one patient who had previously presented with a discharge to another hospital said that he had been scolded by nurses, and had to wait for a long time, and that this was why he had not returned to the same hospital for treatment this time.

Another patient who had been previously treated at Hlabisa Hospital by a nurse, complained that the nurse had cursed and scolded her harshly, and that she had been very reluctant to return for this reason. And finally, one of the male informants who had suffered from penile sores twice in the past described how on the first occasion he had been cured by a traditional healer in Durban,

but that on the second time, the traditional healer had not helped so that he finally went to a hospital.

7.4.3 Understanding The Severity And Complications Of STDs.

There was poor understanding of the complications of their conditions. Most considered the condition to be serious for symptomatic reasons, with one bemoaning the fact that he could not enjoy sex at the present moment.

Few were able to list any complications of STDs without being prompted, and four said that they did not know of any complications. One mentioned death, and another infertility as the only complication they knew about. Two of the women mentioned that the disease could be transmitted to their unborn children, but only one informant mentioned AIDS as a possible complication. Even with prompting, only another two patients had any awareness of the fact that STDs were related to AIDS.

7.4.4 Sexual Behaviour Prior To Presentation

Of the four men who were interviewed, two had continued to have sexual intercourse despite their existing signs and symptoms, and neither had used condoms. One of the two who had continued sexual intercourse, said, *"I could not avoid my girlfriend and it is difficult to sleep in one bed with your girlfriend and avoid sex".*

Whilst none of the women had had intercourse at the time of being symptomatic with their STDs, all three explained that this had been bacause their partners had been away.

7.4.5 Assessment of the Current (Hospital) Health Provider.

The patients were also asked a series of questions to assess various aspects of the quality of care that they had just received from the hospital nurse.

Six out of seven of the patients said that they had been given an explanation for their condition, which was either explained in terms of a "germ", or in terms of sexual behaviour. One patient said that she had been told nothing at all about the cause of her illness.

The importance of drug compliance had been explained to all but two of the informants. Five patients had also been told not to have sex until healed, and all the patients had been told about condoms, and that their sexual partners should be treated. However, only three of the informants had been shown how to check the condom expiry date, and how to put it on.

In response to these efforts at condom promotion, one patient said that she had thrown the condoms away in front of the nurse, saying that she did not want them, and that she will never use a condom in her life. Another of the female patients had declined to take any condoms because she was scared to take them to her boyfriend.

All the patients had found the health provider's attitude to have been satisfactory. One said that

the good attitude was unusual because before it had been so bad. However, one patient made the observation that people could hear the questions and answers between himself and the nurse, and that he had felt uncomfortable and embarassed as a result.

8. DISCUSSION

8.1 The frequency distribution of STDs

The findings on the frequency distribution of STDs in the Hlabisa health ward, confirmed the belief that STDs, and particularly genital ulcerative disease (GUD), are extremely common and rightly deserve a high and urgent public health priority. The annual consultation rate was estimated to be in the region of 25 per thousand population and compares with other high rates in Senegal, Zambia and Mozambique[160]. However, the study was not able to estimate what proportion of STD consultations consist of repeat attenders or follow-ups.

This figure may also represent an under-estimation as it excludes antenatal patients who test positive for syphilis, as well as patients who are seen primarily for other reasons but who may have a co-existing STD, for example family planning clinic attenders. As well as this, the period over which the data was collected did not coincide with the Christmas and post-Christmas period which is thought to be the time during which many STDs become manifest due to the annual return of many migrant labourers.

The high proportion of GUD is staggering. 51.7% of the males presenting with an STD had a GUD, either on its own, or together with a discharge. This was the case with 36.6% of the women. When combined, this gives an overall prevalence of 42.5%. In surveys conducted in the former PWV region, and in Khayelitsha (Western Cape), the proportion of ulcers was 22% and 6% respectively[161, 162]. The extremely high proportion of GUD may explain the high prevalence of HIV in Kwazulu-Natal in comparison to the rest of the country.

Of equal importance was the finding that the bulk of STD consultations within the biomedical sector are seen and treated by private GPs. This is despite the fact that it was almost ten times the cost of the public sector. This confirms other reports from South Africa that the most common biomedical health provider for STDs is the private general practitioner[163].

GPs must therefore become an important and central component of STD policy and planning. District health managers and HIV/STD programme managers should be taking immediate steps towards ensuring that GPs are fully integrated into HIV/STD programmes, and that they are treating patients effectively and comprehensively. The imperative of improving the quality of STD management possibly represents the single most important reason for increasing cooperation between the public and private sector as a matter of urgency.

Another noteworthy finding was the variation in frequency of STDs between the different clinics and GPs. Although the study was not able to say this should be the case, it is likely to be due to a number of causes. These would include differences in diagnostic criteria, variations in the quality of surveillance, possible differences in the catchment population of different health facilities (due to geographical factors such as proximity to the N2 highway or to the industrial location of Richards Bay, or due to socio-economic and housing differences), and finally, due to differences in the quality of care provided.

Overall, slightly more men were seen than women (a ratio of 1.3 to 1) in the biomedical sector, although this was not a consistent finding in every health service point studied. It should be noted however that the brief and cross-sectional nature of this study does not consider the possibility

of the frequency distribution of STDs being affected by seasonal trends.

Some surveys have commented on how STD services are biased towards the management of symptomatic men, and have an inability to reach women. For example, in 1989 the Bulawayo City Council of Zimbabwe treated 64,933 men but only 15,643 women for STDs[164]. Although the male:female ratio that was estimated in this study is not as big as the study noted in Bulawayo, this may be partly explained by the fact that in most southern African countries, men tend to be more numerous in the cities and vice versa inthe rural areas. However, it is still likely that many women in Hlabisa remain undiagnosed and untreated for STDs, resulting in a hidden pool of disease and morbidity.

It was also interesting to note that the male:female ratio varied between the different groups of providers who were studied. At the hospital in fact, more women were seen than men (a female to male ratio of 1.8). On the other hand, there were more male STD patients seen by the GPs (a male to female ratio of 1.5) and clinics (a male to female ratio of 2.0). In the case of GPs, this might be explained by the fact that men are more likely to be able to afford the higher fees than women. However, the difference in sex ratio between the hospital and clinics cannot be explained along these lines as they both provide treatment for free. It is possible that the diagnostic threshold for vaginal discharge and PID is lower in the public sector.

The variation in disease and patient profiles that were noted between the various health services cannot be fully explained, and would require further study. For example, while 32% of female STD patients at the hospital were diagnosed with PID, the figure was only 11.6% for the clinics. Amongst the group of GPs, the the proportion of female patients with PID varied from 1% to

45%.

These variations with regard to PID is likely to be due to differing diagnostic practices, and the absence of uniform diagnostic criteria. Given the fact that the signs and symptoms of PID vary from being asymptomatic to peritonitis, this may not be surprising. Some cases of PID may also be diagnosed as vaginal discharges, or cystitis, or even "lower abdominal pain".

The finding that clinics saw almost twice the proportion of GUD amongst women compared with GPs is also interesting, but difficult to explain. It is possible that clinic nurses performed a more thorough clinical examination than GPs, and were therefore able to detect ulcers that were not externally obvious. A study conducted in Cape Town showed, for example, that clinicians failed to detect and treat "most" ulcers in women, and that up to 60.9% of women STD patients left the clinic with at least one infection untreated as a result[165].

8.2 Assessments of biomedical health providers

It is important to emphasise that the results of this study may not be completely representative of the management of all STDs in the health district. Because of the large number of health providers, assessments of quality are rarely able to obtain a representative picture of health care as a whole. Often, quality of care assessments are used to provide an *illustrative* or *selective* picture of a part of the health service, but which can be used to identify or highlight areas that need attention. For example, quality of care assessments may seek to identify and rectify serious examples of failure in care, or, it may seek to create a general environment of audit and watchful concern that motivates everyone to perform better.

From the individual health provider interviews, several gaps in knowledge, limitations in understanding, and incorrect or ineffective practises were identified. For example, many health care providers did not know that STDs were considered to be a co-factor for HIV transmission, and several of the GPs seemed to be lack clarity on the usefulness and purpose of some STD diagnostic laboratory tests. Several health care workers did not know that women were susceptible to asymptomatic infection, and judging from the remark made about Zulu promiscuity, it could be said that there was poor understanding of the dynamics of sexuality and the determinants of "risk-taking behaviour".

It is not surprising, given such gaps in knowledge and understanding, that the quality of STD diagnosis was shown by findings from both the interviews and the patient simulation exercise to be poor. In the case of GPs, most of them were still attempting to make aetiological diagnoses on the basis of clinical signs and symptoms without adequate laboratory services.

The quality of this approach to diagnosis and treatment was put in further doubt by the failure of most GPs to identify trichomonas as the most likely organism to cause a frothy, yellow-green vaginal discharge. Finally, the lack of evidence-based clinical practice was illustrated by the comment of one GP who said that he did not use penicillin to treat syphilis *"because everybody else uses it too frequently"*.

In contrast to this, the medical officers and clinic nurses were aware of the arguments in favour of the syndromic approach, and were using syndromic protocols for diagnosis and treatment. In the public sector therefore, provided that the correct syndrome(s) was identified, effective treatment would have been prescribed.

However, the patient simulation exercise highlighted the problem of making the correct syndromic diagnosis in the case of PID. Even in a woman who presented with a classic textbook history, both the GPs and the nurses generally failed to correctly diagnose PID. The poor attention paid to taking a good history or performing an examination was unacceptable, and may partly explain why the diagnosis of PID was missed.

The lack of routine "case finding" is also a significant omission. Given the high rates of symptomatic infection present in women who do not recognise the presence of disease, all women who present to the health service should be asked about a history suggestive of infection or suggestive of exposure to infection, and treated accordingly. Such an inquiry would include questions about the presence of a vaginal discharge, dyspareunia, post-coital bleeding, and a history of exposure to a STD from a sexual partner. Family planning and antenatal clinics are obvious places to initiate this kind of case finding for STDs, and failure to do so could be considered as "missed opportunities" to treat STDs.

Partly as a result of the non-use of the syndromic approach amongst GPs, the interviews showed quite clearly that many patients seeking care from GPs with GUD and urethral discharge are receiving poor, incomplete or sub-optimal treatment. The fact that some GPs are still treating gonorrhea with penicillin is clearly unacceptable. Both an improvement in the diagnosis and treatment of STDs would be accomplished by using a syndromic approach.

A common syndromic approach would also reduce the risks of the development of antibiotic resistance, lead to cost savings, and would also encourage the perception amongst patients that the private and public health sectors provide a complementary health service rather than an

alternative service. An agreement by the GPs in the area to comply with a uniform and affordable treatment schedule still needs to be negotiated.

The poor standard of drug prescribing, as well as the strong encouragement of injections, also suggest the need for greater quality-of-care regulation in the private sector. This insistence was so great that on three occasions the patient simulator was subjected to an injection despite protestations. In some GP surgeries, injections of Vitamin B-complex, penicillin and steroids were seen to have been prepared *en masse* at the beginning of each day.

Several of the GPs explained that their liberal use of injections was due to strong patient demand, as there are perceptions amongst patients that injections represent strong medicine, and tablets represent weak medicine. Although acquiescing to this patient-demand may mean that patients are more satisfied with the service they get, doctors also have a duty to try and change perceptions that are potentially harmful rather than to sustain them.

Most importantly, this type of practice encourages the perception that the private-public sector divide represents a divide in quality or strength of treatment. As a result, patients are encouraged to pay higher fees for treatment that is perceived to be superior, but which may be ineffective. This is a tragedy when considering the fact that effective treatment for STDs can be provided in the public sector for free.

The dispensing practices of GPs, medical officers, and nurses were also identified as areas requiring change and improvement. For example, drugs that had been dispensed to the patient simulators were not accompanied with any information on how the medication should be taken

and how important full compliance was. The poor quality of explanations and instructions that accompany the dispensing of drugs must be addressed as it is likely to contribute to patients not completing their treatment, and possibly to patients selling some of these drugs.

As well as this, there was a tendency for GPs to over-prescribe and to insist (in some cases aggressively) on giving injections even when it was not clinically indicated.

The situation whereby medical aid patients explicitly receive a better standard of treatment by some GPs should also be discouraged, and mechanisms for facilitating the precription by GPs of some of the more expensive drugs such as ciprofloxacin, needs to be given attention by the Department of Health.

Although the syndromic approach to STD treatment can be seen as the cornerstone for more effective and rational case management, a number of other problems would still need to be addressed, such as patient counselling and education, a more user-friendly service, and contact tracing. Improving these aspects of STD management are partially reliant upon a certain attitude as well as on a competent technical knowledge about STDs.

In this study, all groups of health providers were found to be deficient in the area of counselling and health education. Amongst several of the GPs who were interviewed, this accompanied by a negative and judgemental attitude towards people with STDs, a tendency to stereotype African sexual behaviour, and a poor understanding of the determinants of risk-taking behaviour. This is an important finding given the importance of providing a more sympathetic, user-friendly and client-centred STD service.

In particular it is important that all health workers understand the gender differences in STDs, and appreciate that most women do not have any control over their sexual lives, and therefore little control over their health. Creating the freedom for women to control their sexual practices is a key component of the social changes that are needed for Africa to effectively combat the HIV epidemic. Health workers, and especially nurses, should all be at the forefront of the social forces required to effect these changes.

The study however revealed that STD counselling and educational services were virtually non-existent amongst the health providers. In the hospital and in many other clinics the health facility itself was not conducive to effective counselling and education due to the lack of privacy and comfort for the patient.

Although the poor quality of counselling by GPs is partly excused by the language barrier, this does not excuse the poor standard of counselling, education and health promotion by nurses. Counselling and education for STDs does however require time and a significant amount of inter-personal skills, and it should be remembered that many health workers have neither the privacy, time or skills to carry it out effectively.

However, one cannot escape the need for and importance of proper counselling and education as a routine part of STD case management. Without effective counselling and health promotion, there will only be limited success with contact tracing, drug compliance and ensuring abstinence until healed.

Counselling and education should also be seen as part of the wider public health need to change

existing norms of sexual behaviour. If doctors who treat patients with STDs are seen by the community to ignore contact tracing, condoms and safe sex messages in the clinic setting, this will reduce the effectiveness of the millions of rand being poured into mass media campaigns to encourage safer sex. Patients and the community need to see a consistency within the health sector about safe sex issues if they are to take them seriously.

However, the requirements for effective counselling and education should not be under-estimated, and counselling skills around sexual health should become an focus of continuing medical education (CME) programmes. In the past, health worker training has focused too much on the biomedical diagnosis and treatment of STDs and neglected the importance of teaching the inter-personal skills required for taking a good history, adopting a sympathetic and understanding attitude, and delivering socially and culturally appropriate health promotion. A new training manual for primary health workers to manage STDs more effectively is being produced to meet these needs, and has drawn from many of the findings of this study.

Encouragingly, there was universal agreement that CME on STDs was needed, and that it would be appreciated. Each of the GPs in the area have since been given a handout explaining some of the more common misconceptions about STDs and sexual behaviour, the rationale behind the syndromic approach, and up-to-date pharmacological information.

Mechanisms for delivering CME to GPs in rural areas is however difficult, and imaginative ways need to be found to encourage their participation. One suggestion would be to sponsor and organise a weekend seminar on HIV/STDs for all health workers in the area, especially targeting private sector GPs. Such a seminar would serve the double purpose of education as well as

initiating greater private-public sector collaboration.

Health workers should not however expect to see immediate and tangible results from the counselling and education of individual patients. The success of individual-oriented interventions also depends upon the prevailing attitudes, beliefs and practices of the community to which the individual belongs. Thus the comprehensive case management of individual STD patients and the public health interventions of health promotion and education must be seen as mutually-reinforcing aspects of a single health programme.

The study also identified both condom promotion and contact tracing as components of an STD service that were either non-existent or inadequately performed by all groups of health providers. Most did not routinely use contact tracing cards, and some claimed that they did not even attempt to ask the patients to bring their contacts for treatment. Whilst most health facilities made condoms freely available to patients, few health providers had demonstrated to patients how to actually put on and use a condom.

These are important findings because unless the community sees a consistency amongst health providers on the importance of contact tracing and condom promotion, such messages will not be taken as seriously. Health workers have an obligation to consistently emphasise the importance of contact tracing and condom promotion. The poor success of contact tracing demonstrated in this study should not conclude that contact tracing is a futile exercise, but that a greater awareness of the importance and need for contact tracing is required amongst both health providers and health care users.

Although the contact tracing rates from this study were low, there was considerable variation in success from one health provider to another, which suggests that there is room for some providers to improve. It is useful from a programmatic point of view for contact tracing rates to be regularly monitored because it can also be viewed as a proxy measure of the quality of counselling provided between different health providers. The relative success of contact tracing will also vary from setting to setting depending on the degree to which contact tracing is accepted by the community at large as a socially or medically useful behaviour.

However, it could still be useful to use contact tracing as a surrogate marker for the quality of counselling and health promotion. To do so, a common definition of the contact tracing rate is required. In this study, a contact was defined as any sexual partner within the past six weeks, who resides locally. The proviso about place of residence is important because of the highly mobile nature of the South African population which is likely to be even more pronounced within the population of STD patients. STD programmes should evaluate the success of contact tracing on the basis of what is possible. To notify a sexual partner who now resides 300 kilometres away is generally unfeasible and is perhaps best not reflected in that health provider's contact tracing rate.

Finally, it is worth commenting on the general feeling amongst GPs that they do not see themselves as having a role to play in health promotion at the community level, despite their acknowledgement that this is one of the most important requirements for controlling the level of STDs. GPs see their roles as being very much facility-based and curative. The orientation of the PHC Approach with its strong emphasis on communty participation, health education and disease prevention does not therefore go well with with the model of health care delivery that the GPs have of themselves.

8.3 Assessment of Traditional Healers

The findings from the interviews with six traditional healers must be interpreted with great caution due the methodological limitations that have been described in chapter 7. The purpose of this part of the study was to conduct a superficial and broad investigation of traditional healers in relation to STDs so as to identify and inform more specific areas of research that could be conducted in the future.

The findings from this study clearly confirm that amongst traditional healers and patients, STDs are understood within an indigenous and non-biomedical framework. However, despite this profound difference with the biomedical sector, there are several reasons for encouraging greater co-operation between the public health services and traditional healers.

Although there is no substantial evidence from the literature that the medicines which are prescribed and administered by traditional healers have any microbiologically active properties, traditional healers have a shared understanding about disease and illness with many patients, and which puts them in a strong and advantageous position for providing a preventative and promotive health services.

For example, the finding that contraceptives are believed to cause certain STDs is likely to reduce the impact and effectiveness of family planning services and efforts to improve the uptake of contraceptives. Given the social and cultural advantages that traditional healers have over their biomedical counterparts, they could and should be included in a strategy to promote family

planning, as they have an important influence in sanctioning changes in beliefs about illness and disease.

As well as the potential for using traditional healers to promote or change certain beliefs, the findings from this study indicate that health education is a routine part of the management of patients with "sexually associated illnesses", and that many of the messages that they give are appropriate for promoting healthy sexual behaviour.

The importance of traditional healers with respect to STDs appears to be partly related to the findings that magic potions and harmful *muthi* are prominent in the aetiological framework of STDs amongst patients. As a result of these beliefs, many patients tend to seek health care from traditional healers before they see a biomedical health provider. This delay is potentially a cause for increasing rates of STD transmission and complications.

Rather than to simply try to discourage and stop patients from using traditional healers as their point of first call, imaginative and more effective ways should explored for influencing the pattern of health seeking behaviour in a way that would optimise the control of STDs, without negating the cultural and traditional foundations of their beliefs. In doing so, traditional healing systems would be seen as a separate and parallel healing system which is complementary, not alternative, to the biomedical health system.

In other words, traditional healers should be seen as an independent health resource with unique skills, qualitiies and effectiveness, rather than a category of healers that should be turned into a form of primary care biomedical health workers. In order to do this, there must be respect for

traditional healing systems, and a conscious attempt to overcome the prejudice towards other healing systems; a prejudice that is common in the biomedical health sector[166].

It is therefore important to highlight that "traditionalism" is not necessarily an obstacle to change. Too often in discourses about HIV, "culture" is often seen as an obstacle to medical science, and therefore, treated with disrespect. However, both culture and traditional beliefs should be regarded as non-static entities which have the capacity to evolve and change in response to need, and new concepts can be internalised without being destructive of the traditional framework of understanding.

What needs to be done is to encourage this capacity for change and evolution in a way that will add to other efforts in promoting health, and halting the HIV epidemic. The fact that in most rural areas of this country, traditional healers outnumber medical doctors and nurses quite substantially is another reason for why such a strategy should be pursued.

However, there are also aspects of traditional healing systems which in themselves are harmful, and which must be actively discouraged and opposed. This would include the suggestion amongst some healers that AIDS is curable, and the practice of using the same blade for scarification on different clients. Whilst promoting the role of traditoinal healers in some aspects of health provision, various interventions are required to stop and discourage unsafe practices.

In order to implement a strategy for encouraging certain practices and for discouraging others, a much greater amount of dialogue between the biomedical and traditional health sectors would be required. One of the stumbling blocks to achieving this is the different nosological and

aetiological framework for disease and illness that is used traditionally. Much more research is required in this area so that biomedical terms of reference can be translated in a way that is understandable to traditional healers, and vice versa.

In doing so, particular attention could be paid to the four biomedical syndromes of urethral discharge, vaginal discharge, genital ulcer disease and inguinal lymphadenopathy. This would limit the scope of discussion, and focus collaboration around a clearly defined set of signs and symptoms.

Specific areas of research that would be needed to establish a greater clarity and understanding of traditional healers and their management of STDs would include the following:

- Describing how the four biomedical syndromes of urethral and vaginal discharge, inguinal lymphadenopathy, and genital ulcers are termed in traditional medicine, as well as finding out whether these terms are also used to describe other (non-genital) signs and symptoms.
- Describing what is said to be the causes of the above "diseases", as well as their modes of acquisition and transmission.
- Describing the kinds of genital diseases or manifestations caused by the the following:
  - *umeqo;*
  - people making bad wishes or casting spells;
  - taking certain types of pills or contraceptives;
  - upsetting ancestral spirits;
  - *muthi.*
- Describing the types of sexual behaviour that are thought to lead to the acquisition of

these "diseases".

- Describing the advice that is given to patients who present with these conditions, probing specifically about messages related to sexual behaviour, abstinence, partner notification and prevention of future episodes.
- Describing the scarification procedures that are practised.
- Describing the the mechanisms by which traditional healing is said to cure disease or illness, and in what circumstances it is seen to be successful or unsuccessful.
- Describing the differences in diagnostic models and therapeutic practices between inyangas, inyanga-sangomas, and sangomas.
- Describing the kinds of referrals they practise, and investigating the potential for more apporpriate referral patterns with biomedical services in the future.
- Describing traditional healers' perception of the relative advantages of traditional medicine and of biomedicine, as well as describing their attitudes towards condoms and condom promotion.

With this information, it should be possible to develop a plan for improving collaboration between the traditional health and biomedical health sectors. Given the assumption that the curative service of traditional healers is not efficacious from a microbiological point of view, there should be an emphasis on optimising and encouraging the health promotive services of traditional healers around the following areas:

- promoting the earlier attendance of STD patients at biomedical health facilities;
- promoting safe sexual behaviour;
- promoting condom use;

- promoting contact tracing;

As well as this, some of the potentially harmful aspects of traditional medicine should be discouraged. This would include suggesting that HIV/AIDS was curable and of unsafe scarification practices.

In order to help establish a framework for increasing the collaboration with traditional healers, the World Health Organisation produced a report on prospects for involving traditional healers in AIDS prevention and management activities[167], and suggests that such collaboration should include:

- protecting patients from substandard care;
- recognising the role of traditional healers, and defining their rights, privileges and responsibilities;
- educating and guiding practitioners and the community;
- providing opportunities for education and training;
- protecting traditional healers from unfair prosecution and malpractice suits;
- protecting individuals and the community from charlatans

These issues however need to receive support, coordination and policy guidance from the Department of Health. The importance of appropriate legislation also needs attention, as this would allow more open recognition of traditional healers, legalise cooperation between doctors and traditional healers, as well as define the scope traditional healing systems in terms of their areas of practice, and their rights, privileges and responsibilities.

Formal recognition would also help establish better recruitment and registration policies, provide standards of reference for regulation and the protection of patients, provide laws to protect the practice and development of traditional healing, allow guidance on fees, as well as protect intellectual property and patent rights.

8.4 Patients' perceptions and health seeking behaviour

In order to treat and control STDs, patients and members of the community must not only seek quick and early treatment when they become symptomatic, but must also understand how STDs are transmitted, and how they can be prevented. The findings from this study indicate that there is much that can and needs to be done to improve the public's understanding of STDs and to improve health care seeking behaviour.

In order for this to happen however, health workers need to be aware of and understand the knowledge, attitudes and beliefs that patients and the public have about STDs and about the health services.

Although only a small number of patients were interviewed in this study, the information that was derived illustrates the need for the health service to pay greater attention to the way in which disease and health providers are conceived off by health care users. In terms of their understanding of the causes of STDs, the patients interviewed in this study shared many of the cultural constructs of the disease aetiology as the traditional healers.

For example, several of the interviewed patients demonstrated a prominent belief that *umeqo* and magic spells are a cause of STDs. If this is the case, the effectiveness of health promotion messages that are solely based on a biomedical germ theory of infectious disease transmission, will be limited for being at odds with the patient's understanding of disease transmission.

Another example with important implications for the health service was the discovery that many patients believe that contraceptives predispose one to getting STDs (a finding that was confirmed by the interviews with traditional healers as well). Family planning services should take immediate cognisance of this and address these misconceptions in their health promotional materials.

In many cases, health promotion messages that are based on a scientific understanding of disease and illness are able to promote the benefits of certain behaviours or practices. However, without understanding the patient's perspective, health promotion messages will not be able to dispel or change pre-conceived understanding if they do not refer to the beliefs that help inform that understanding.

Despite the various beliefs about the transmission of diseases manifested by genital ulcers, urethral discharge and vaginal discharge which are not based on a biomedical model, sexual intercourse did feature as an important association. In many cases, even if the cause of the illness is to some form of "magic", sexual intercourse was often explained as the way by which the "magic" is transmitted. The implication of this is that conventional health promotion messages about safe sex would still be useful, although possibly not as useful than if they sought to integrate the non-biomedical constructs of disease that are held by large segments of the population.

The fact that traditional and cultural constructs of illness are still common also means that patients are likely to continue seeking treatment from traditional healers, regardless of their clinical effectiveness. One previous study from the Hlabisa showed that a third of about 150 patients presenting to rural clinics with STDs said that they had previously been to a traditional healer[168], and the patient interviews from this study also demonstrated the importance of traditional healers as sources of health care for STDs.

As a result of this, traditional healers may be seen as a cause for patients being delayed in receiving biomedical treatment. The question that needs to be asked is what should be the response to that. Given that this pattern of health care seeking behaviour will not be changed quickly, and given that it may be incorrect to try and change it, it will be important that patients are encouraged to seek treatment from both a biomedical health service *and* from traditional healers. This approach may be more effective than simply discouraging patients from seeing traditional healers.

In this study, three out of seven patients had taken more than ten days before presenting to a biomedical health worker for treatment and indicates the need for strategies to quicken health care seeking behaviour. Apart from the issue of traditional healers, the further study of other factors that determine the pattern of health care seeking behaviour is required.

For example, decisions about seeking health care can have many determining factors that are unrelated to the patient's constructs of disease and illness. Such factors include the availability of services, the cost of accessing health care, prior experience with a similar illness, long waiting times, concerns about confidentiality, and satisfaction with the quality of care.

Two of the patients who were interviewed in this study indicated that their health care seeking decisions had been influenced by the negative attitudes of health workers in the past, and emphasises the importance of a polite, user-friendly and sympathetic service. The impersonal and critical manner with which many health workers treat patients with STDs is often commented on by nurses and doctors themselves.

On top of all this, health care seeking behaviour is also likely to be affected by gender. The fact that most of the public sector health providers are female whilst most of the private and traditional health sector health providers are male must impact on the pattern of health care seeking behaviour for a condition that is so intimately related to sexual matters.

Quite why so many patients appear to prefer to seek STD treatment from GPs, despite the high cost, is not adequately known. Patients from this study intimated that one of the advantages of seeing a GP is that they are likely to offer greater confidentiality, a faster service, and an injection. Considering that GPs are up to ten times more expensive than clinics or the hospital, there must be strongly-held perceptions about differences in the quality and effectiveness of service which the public sector needs to overcome. The importance of overcoming these perceptions is accentuated by the findings from this study that the quality of care provided by GPs may be poor.

The interviews with the STD patients in this study also indicated a poor understanding of the potential complications of STDs. In particular, the study illustrated the need to provide health information on the relationship between STDs and HIV/AIDS. The importance of health education designed to promote abstention from sex whilst symptomatic was also highlighted by the confirmation in this study that people with symptomatic STDs continue to have unprotected

intercourse.

Finally, the study also indicated the potential for performing exit interviews with patients as a way of monitoring the quality of care provided. In this study for example, while all the patients said that condoms had been promoted as part of the consultation, only three of them were actually shown how to use them. Similarly, whilst all of them had been told that their sexual partners would require treatment, only two of them said that the importance of drug full compliance was explained to them by the nurse.

In conclusion, when it comes to planning of the provision and improvement of health care delivery for the management and control of STDs, there is much to commend an approach that begins with the patients and his/her understanding of disease and the quality of care.

8.5 Assessing the quality of STD care

Given the importance of STDs, it is imperative that health services are able to monitor and regulate the quality of STD management. Research is required to identify efficient, valid, rapid and feasible methods for health services to evaluate and monitor the quality of care. This study has demonstrated the utility of using a combination of different rapid evaluation methods for identifying areas of health care delivery that require improvement within eleven discrete components of STD management and control.

As a starting point, most districts in South Africa need to establish the epidemiological pattern

of STDs through basic surveillance. This will provide baseline information on the incidence of STDs which is necessary for monitoring the impact of control programmes, as well as for indicating geographical variations and the relative importance of the various health care providers.

As well as this, health services must be able to ensure that health care providers are providing comprehensive and effective STD case management at all health care facilities and services. The managerial and administrative aspects of STD services such as ensuring an adequate and reliable supply of resources and drugs must also be evaluated and monitored.

The popularity of GPs as a source of health care for STD patients must also must also be noted, and is an important reason for improving cooperation between the public and private sector. At present there are no routine mechanisms for monitoring or regulating the standard and quality of care that is provided in the private sector. Given the public health importance of STDs, and given some of the inadequacies in care provided by the GPs in this study, an important national health priority for this country should be to ensure that mechanisms are found for ensuring that some form of quality assurance will be developed for the private sector. Until such time however, it is contingent upon health services to start local and informal initiatives in ensuring a minimum standard of care for patients in their district.

This study is an example of an informal and local assessment of the quality of care in the private sector which was able to identify a number of deficiencies such as the lack of routine STD surveillance, contact tracing, condom promotion, or health education, as well as poor and inadequate treatment, unacceptable dispensing practices, and a lack of privacy and comfort in some consultation rooms.

This study used a combination of semi-structured interviews of health care providers and patients, a patient simulation exercise, a study of the frequency distribution of STDs, and a one-off assessment of the effectiveness of contact tracing was used to inform the process of improving the management and control of STDs at the district level. The methods used were relatively simple and rapid, and should be usable by most health services.

It is important to perhaps note that there is no one single method for assessing the quality of care which is a multi-dimensional subject requiring a multi-pronged approach. In order to do it properly, time, effort and commitment is required, as the passive and routine collection of service generated data is insufficient.

However, exercises such as conducting interviews with health workers to assess their knowledge and practices need only de done periodically maybe as infrequently as once every two years - an activity that most districts should have the capacity to do. Because it is important for all districts to be able to conduct assessments of the quality of their STD control activities, it is worth analysing and debating the relative pros and cons of the different methods of conducting quality assurance.

The method of face-to-face interviews with health workers for example has the added advantage of conducting quality assurance with a cooperative and participatory feel rather than as an exercise that is top-down and judgemental. Interviews not only involve health workers in the identification of problems, but can also initiate the required intervention by allowing an immediate dialogue on what needs to be done to solve the identified problems.

For this to happen though, it is important that the person conducting the interviews is someone with the authority and knowledge to make the interventions, recommendations and changes that are required. With the GPs in this study, it was probably crucial that the interviews were conducted by a senior medical member of the public sector health service as this would have encouraged more willing participation.

However, the study also demonstrated the limitations of interviews as a method of collecting information. With both the GPs and nurses, what was *said* to have been part of routine STD management, was often contrary to the experience of the patient simulators. In terms of counselling, the explanation of illness to the patient, contact tracing, and condom promotion, the patient simulation exercise gave a different (and worse) picture of the quality of care than what was obtained from the interviews.

The use of an evaluation method (such as with the patient simulation exercise) to which the subject is "blind" is therefore important if a true picture of normal clinical practise is to be formed.

Although the use of patient simulators or "dummy patients" may be considered to be a controversial method, the experience of this study found that, provided it is carried out in a sensitive and non-judgmental manner, health workers may value the exercise as a way for their own self-improvement.

In this study, all the GPs in the area were sent a letter retrospectively informing them of the patient simulation exercise, as well as showing them a summary of the findings. They were invited to make comments on a one page questionnaire and given a stamped and addressed envelope so

as to encourage a good response rate. At the same time an " information package" which addressed some of the misconceptions and examples of bad practice that were identified in the study was enclosed.

Four out of eleven GPs replied. All of these respondents approved of the overall evaluation, including the use of patient simulators. They also mentioned that the "information package" had been useful, and one even said that it had led to a *"total reorganisation of perspective"*. This demonstrated that if a sensitive and non-confrontational approach is used, GPs may actually welcome some form of quality control, even if it originates from the public sector.

However, given the fact that patient simulation requires deceiving health workers, as well as exposing the field worker to a potentially embarrassing and uncomfortable experience, its value and its ethics need to be questioned. One has to ask whether the same information could be obtained in any other way.

One possible method would be by conducting exit interviews with patients. Apart from being able to gauge the overall satisfaction of the patient, exit interviews can also evaluate the content and scope of health education during the consultation. The limitation of exit interviews however is that quality is defined subjectively by the patient, and not by a more objective and standardised set of criteria. The dynamics of power and status will also vary from place to place, as well as cause patients to say that the quality of care was better than they really felt it was.

Another option would be through the direct observation of a patient consultation. This method which has been used in other studies[169], is limited by the fact that the health worker under

observation will probably change the way in which he/she practises as he/she will know that they are being evaluated. Despite this however, this method of quality assessment has been shown to be capable of identifying poor standards in the quality of care[170]. Furthermore, techniques such as using a video camera offer the possibility of making the observation less obtrusive so as to allow a more natural and realistic environment.

Other methods for assessing the quality of care include the retrospective review of treatment cards to estimate for example, the proportion of patients who received effective treatment, or the proportion of patients who underwent the correct diagnostic procedure. Although retrospective case reviews can measure a number of indicators of quality, they are limited by incomplete documentation, and by the lack of any indication of the inter-personal dynamic between health worker and patient.

The quality of the inter-personal patient-provider relationship is undoubtedly hard to measure rapidly and scientifically because of its subjective nature, and rigorous methodologies to assess this remain undeveloped.

When measuring quality, one also needs to decide on whether to adopt a maximal (the best possible), an optimal (cost effective only), or a minimum standards approach. In the case of the case management of STDs for example, patients have at the very least, a right to receive pharmacologically efficacious treatment. The fact that some doctors are still prescribing penicillin for gonorrhea is entirely unacceptable, and monitoring this would correspond with a minimum standards approach to quality assurance.

However, ensuring that condoms and partner notification are promoted, or that sexual counselling is effective, is much more difficult to evaluate and monitor, and also difficult to set criteria for measuring minimum, optimal or maximal standards of quality.

Finally, although evaluating the quality of case management is important, districts must also be able to evaluate their preventive and public health interventions such as IEC (information, education and communication) programmes for the community, outreach interventions for adolescents, and the identification and prioritisation of core transmitters such as sex workers and truck drivers.

9. CONCLUSION

This study has demonstrated that a combination of relatively simple and rapid appraisal methods can be used to collect important information for improving STD policy, management and planning at the district level.

The use of several methods was important for allowing a multi-dimensional and comprehensive assessment that took into account both quantitative and qualitative information, as well as the perspective of both the health care provider and the health care user. The methods were therefore complimentary, rather than alternative to each other .

This is illustrated by the limitations of interviews as a method of collecting information. What was *said* to have been part of routine STD management, was often contrary to the experience of the patient simulators. In terms of counselling, explanation of illness to patient, contact tracing, and condom promotion, the patient simulation exercise gave a much different (and worse) picture from that obtained by interviewing the health worker. The use of an evaluation method to which the subject is "blind" is therefore important if a more "true-to-life" picture of clinical practise is to be formed.

However, the process of information collection through interviews had the advantage of creating a more cooperative and participatory feel to the process of evaluation rather than one that is top-down and impersonal. If such interviews are carried out by senior members of the district health management team, information gathering can also be immediately linked with the process of problem identification and problem solving.

It is hoped that some of the findings and experiences of this study could be used to suggest a standardised set of methods that would be feasible and valid for all districts to perform periodically as a management and quality assurance exercise, as it is important that routine STD surveillance is not simply limited to facility-based numerical data.

However, even with the multiple methods used in this study, there were still several limitations to the process due to the fact that the methods primarily focused on assessing the quality of individual case management, and did not really focus on the nature and quality of the district's public health interventions aimed at improving the primary and secondary prevention of STDs.

The various public health strategies that have been discussed in the literature review should be included as important interventions that require monitoring and quality assurance. In the words of Johnathan Mann, the former head of WHO's Global Programme on AIDS[171]:

> "It is not enough for STD services to continue concentrating simply on the diagnosis and treatment of presenting cases. A holistic approach to health care is required which will embrace prevention, access to health care, diagnosis, treatment, counselling, sexual behaviour, health education, contact-tracing, surveillance/data collection, and the empowerment of individuals or groups of individuals to protect themselves from infection".

Such a holistic approach to the quality of STD services would also include an assessment of the availability of service points in the district. In the Hlabisa district for example, vast areas were not served by a health facility that was less than 10 kilometres away [172]. As it was evident that GPs

did not consider broader community-based health activities as part of their job, it is contingent upon the public health sector to ensure that community-based interventions are taking place in the schools, in shebeens and nightclubs, in areas of commercial sex activity, amongst migrant workers and long-distance truck drivers, in construction sites and within the army and police.

The involvement of GPs in the exercise was also important given the proportion of STD consultations that are managed in the private sector. In the absence of any routine or formal mechanisms for the regulation of the quality of care in the private sector, this study has demonstrated that local and informal can and should be made.

Provided that the process is carried out in a sensitive and non-judgmental manner, many health workers would even recognise the value of a patient simulation exercise. In this study, all the GPs in the area were sent a letter retrospectively informing them of the patient simulation exercise, together with a summary of the findings. They were invited to make comments on a short one page questionnaire and given a stamped and addressed envelope to encourage response.

Four out of eleven GPs replied, all of whom approved of the overall evaluation exercise, including the use of patient simulators. They also mentioned that the information "package" that they had received was useful, and one even said that it had led to a *"total reorganisation of perspective"*. This demonstrates that if a sensitive and non-confrontational approach is used, GPs may actually welcome some form of quality control, even if it originates from the public sector.

The study also indicated the importance of recognising the traditional and cultural framework of disease and illness within the Zulu community, which has extremely important implications for

health promotion strategies.

The shared beliefs that traditional healers have, together with the recognition and respect shown by many Africans towards the traditional healing system, also indicates that traditional healers have the potential to play an important role in combatting the HIV/STDs epidemic. However, it is also equally clear that establishing productive and beneficial co-operation between the traditional and medical sector would require a great deal of time and commitment.

Finally, the success of a piece of health systems research should be judged according to the outputs and outcomes of the study. Although this study did not include within its scope a plan to implement a number of interventions and to then conduct a post-intervention study, it did produce a number of outputs which should have contributed to an overall improvement in the management of STDs.

First and foremost, the evaluation sensitised a number of health workers to the importance of STDs, and about the need for a comprehensive and holistic approach to its management and control. It also represented the first real "bridge" of dialogue and co-operation between the private and public sector.

Secondly, it produced a number of tangible outputs. This included a written set of recommendations to the district health management team on how the management of STDs could be improved. As well as this, a STD fact sheet on the syndromic management of STDs, and the control of STDs was sent out to all the GPs in the district in order to correct some of their more common misunderstandings and misconceptions. And lastly, the findings from this study were

fundamental to the writing of the Kwazulu-Natal training manual for PHC nurses on the management of STDs.

Appendix 1: Prevalence Figures of Common STDs in Southern Africa

Prevalence of Gonococcal Infection

Country	%	Population group	Source
Zambia	11.2	Urban pregnant women	Ratnam and others 1982.
Zimbabwe	7	Urban women in labour	Mason and others 1989.
Cameroon	3	Urban commercial sex workers	Zekeng and others 1993.
Lesotho	11	Family planning clinic attenders	Fehler and others 1995
South Africa	5.4	Rural ante-natal patients	O'Farrell and others 1989
South Africa	4.1	Ante-natal patients	Dietrich and others 1992

The Prevalence of Syphilis

Country	%	Population group	Source
Swaziland	13.1	Urban pregnant women	Guiness and others 1988.
Zambia	12.9	Urban pregnant women	Ratnam and others 1982
Cameroon	13	Pregnant women	Population Reports 1993
Cameroon	36	Urban commercial sex workers	Zekeng and others 1993
Mozambique	10.5	Ante-natal attenders	Crucitti and others 1995
South Africa	15.5	Women attending gynaecology clinic	Dhai and others 1992
South Africa	11.9	Rural ante-natal patients	O'Farrell and others 1989
South Africa	7.6	Ante-natal patients	Dietrich and others 1992
South Africa	6.0	Women attending FP clinic (E.Transvaal)	Schneider and others 1995
South Africa	8.0	Women attending FP clinic (Durban)	Hoosen and others 1989
South Africa	12.3	Women living in rural areas (Free State)	Cronje and others 1994
South Africa	15.6	Women living in urban areas (Bloemfontein)	Cronje and others 1994

The prevalence of Chlamydia

Country	%	Population group	Source
South Africa	13	Urban pregnant women	Ballard, Fehler and Piot 1986
Zimbabwe	9	Urban pregnant women	Mason and others 1989
Gabon	10	Postpartum women	Le Clerc and others 1988
Nigeria	5.2	Rural sexually active women 20-49 yrs	Brabin and others 1995
South Africa	4	HIV-negative women attending an infertility clinic (Durban)	Ntsaluba and others 1995
South Africa	14	Women attending FP clinic (E.Transvaal)	Schneider and others 1995
South Africa	11.4	Rural ante-natal patients	O'Farrell and others 1989
South Africa	4.7	Ante-natal patients	Dietrich and others 1992

The prevalence of Trichomonas

Country	%	Population group	Source
Zaire	18	Pregnant women	Lebughe and others 1993
Zimbabwe	19	Urban women in labour	Mason and others 1989
Nigeria	7.6	Rural sexually active women 20-49 yrs	Brabin and others 1995
Cameroon	15	Urban commercial sex workers	Zekeng and others 1993
Lesotho	34	Family planning clinic attenders	Fehler and others 1995
South Africa	17	Women attending FP clinic (E.Transvaal)	Schneider and others 1995
South Africa	13	Women attending gynaecology clinic	Dhai and others 1992
South Africa	49.2	Rural ante-natal patients	O'Farrell and others 1989
South Africa	29.6	Women living in urban areas (Bloemfontein)	Cronje and others 1994
South Africa	27.4	Women living in rural areas (Orange Free State)	Cronje and others 1994

References:

Ratnam AV, Din SN, Hira SK, et al. Syphilis in pregnant women in Zambia. *Br J Ven Dis* 1982; 58:355-58.

Mason PR, Katzenstein DA, Chimbira THK, et al. Microbial flora of the lower genital tract of women in labour at Harare Maternity Hospital. *Centr Afr J Med* 1989; 35(3):337-344.

Zekeng L, Feldblum PJ, Oliver RM, and Kapute L. Barrier contraceptive use and HIV infection among high-risk women in Cameroon. *AIDS* 1993; 7: 725-31.

Fehler HG, Dangor Y, Radebe F, et al. *Aetiology and risk factor profiles associated with vaginal and cervical infections in Maseru, Lesotho.* 5th Joint Congress of the Sexually Transmitted Diseases and Infectious Diseases Societies of Southern Africa 1995, Durban.

O'Farrell N, Hoosen AA, Kharsany ABM, van der Ende J. *Sexually transmitted pathogens in pregnant women in a rural South African community. Genitourin Med* 1989; 65:276-80.

Dietrich M, Hoosen AA, Moodley J , Moodley S. Urogenital tract infections in pregnancy at King Edward Hospital, Durban, South Africa. *Genitourin Med* 1992; 68:39-41.

Dietrich M, Hoosen AA, Moodley J , Moodley S. Urogenital tract infections in pregnancy at King Edward Hospital, Durban, South Africa. *Genitourin Med* 1992; 68:39-41.

Guiness LF, Sibandze S, McGrath E, Cornelis AL. Influence of antenatal screening on perinatal mortality caused by syphilis in Swaziland. *Genitourin Med* 1988; 64:294-97.

Anonymous. Controlling STDs. *Population Reports* June 1993, Series L number 9. Produced by Johns Hopkins School of Hygiene and Public Health, USA.

Crucitti T, Folgosa E, Mondlane J, at al. *Syphilis screening for pregnant women attending pre-natal consultation.*5th Joint Congress of the Sexually Transmitted Diseases and Infectious Diseases Societies of Southern Africa 1995, Durban.

Dhai A. *Syphilis and HIV infection amongst gynaecology outpatient deparment attenders at King Edward Hospital, Durban.* Presentation at the Medical Research Council/University of Natal AIDS Research Forum.

Schneider H, Coetzee DJ, Fehler HG, et al. Genital infections among family planning clinic attenders in a rural area of the Eastern Transvaal. *5th Joint Congress of the Sexually Transmitted Diseases and Infectious Diseases Societies of Southern Africa* 1995, Durban.

Cronje HS, Joubert G, Muir A, et al. Prevalence of vaginitis, syphilis and HIV infection in women in the Orange Free State. *S Afr Med J* 1994;84: 602-5.

Ballard R, Fehler HG, Piot P. Chlamydial infections of the eye and genital tract in

developing countries, in Oriel JD, Ridgeway G, Schachter J, Taylor-Richardson D and Ward M (eds.), *Proceedings of 6th international symposium on human chlamydial infections*. 1986. Cambridge: Cambridge University Press.

Brabin L, Kemp J, Orikomaba KO, et al. Reproductive tract infections and abortions among adolescent girls in rural Nigeria. *Lancet* 1995; 344:300-304.

Appendix 2: Core HIV Prevention Indicators Suggested by WHO

Knowledge of prevention practices		
Proportion of people citing at least two acceptable ways of protection from HIV infection	Denominator group: people aged between 15-49 years. Two-stage clustered probability sample design (1,600 urban and 1,600 rural respondents).	Every 3 to 4 years
Condom availability and use		
Average number of condoms per person aged 15-49 years in the past 12 months The proportion of "major condom outlets" that have had an uninterrupted supply of condoms in the last 12 months	Accounting system: enumeration of all condoms supplied over a 12 month period divided by denominator For each type of "major condom outlet", three sampled outlets are visited per "cluster" area	Every year Every year
Sexual behaviour change		
Reported number of casual sexual partners Reported condom use during most recent act of intercourse with a "casual sexual partner" Knowledge levels of preventive practices	Repeated interview surveys of the population sampled from households in urban and rural areas	Every 2 years
Quality of STD case management		
Proportion of patients receiving adequate and appropriate STD treatment Proportion of patients receiving basic advice on condom promotion and partner notification	A descriptive survey of health care facilities providing STD care: appropriate and adequate STD management is defined in terms of history taking, examination, diagnosis, treatment, partner notification and condom promotion Method used include observation, interviews with health care providers, and patient simulation or use of "dummy patients".	Every 2 to 3 years
HIV and STD prevalence		
Reported incidence of urethral discharge in men Sero-prevalence of HIV and syphilis in antenatal patients	Repeated interview surveys of the population sampled from households in urban and rural areas	Every one to two years

Reference:
MertensT, Carael M, Sato P et al. Prevention indicators for evaluating the progress of national AIDS programmes. *AIDS* 1994; 8:1359-1369.

Appendix 3 Semi-structured interview schedule for biomedical health workers

(a) Knowledge, understanding and perceptions

Are there any illnesses that are transmitted through sexual intercourse?
If yes, list and describe them.

What are the causes of these illnesses?
At this point say to the interviewee that AIDS/HIV will be treated separately from other "conventional" STDs

Who gets STDs?

What increases the chance of getting STDs?	Unprompted	Prompted
Promiscuity/Multiple partners		
Unprotected intercourse		
Casual sex		
Sex at early age		
Heavy alcohol consumption		
IUCDs		
Prostitution		
HIV		

What social factors are associated with STDs?	Unprompted	Prompted
Migrant labour		
Poverty		
Affluence		

Do you see patients with STDs in your work? Y or N

Are STDs a common problem amongst people in the area?
Very common.
Common
Rare
Never seen

Listed below are a number of health problems, listed in alphabetical order, affecting adults in this area. Please pick the 5 most important and rank them in importance.

Ante-natal and labour care
Asthma
Cancer
Diarrhoeal diseases
Heart disease
HIV/AIDS
Infertility
Malaria
Mental illness
STDs
Trauma
Tuberculosis

Can a person be infected with an STD without any signs or symptoms of being ill?

If yes, which groups of patients in particular?

List the important complications of STDs:

If infertility is not mentioned What are the causes of infertility?

If congenital disease is not mentioned Can newborn babies become ill from STDs in the mother?

How can the management of STDs be improved?

Listed below are a number of ways that the management of STDs could be improved. Choose 5 that you think are most important.

Better consultation and examination
More counselling on prevention and safe sexual behaviour
More community and public health education
Standardised treatment protocols
Better partner tracing
Encourage use of condoms
Encourage follow-up
More in-service education for doctors and nurses
A more sympathetic atitude from health workers
A dedicated and specific STD clinic
Having more clinics/treatment points

What is AIDS?

Are there any other names used to describe this condition?
What are the common signs and symptoms of this disease?

Do people who have this disease always feel or look sick?

What is the difference between HIV and AIDS?

Name the different ways that HIV is spread between people:

Sexual intercourse
Vertical/Perinatal transmission
Blood transfusion
Breastfeeding
Chaba marks/shared needles
Needlestick injury

How common is HIV Infection in this area?

Common
Rare
Never seen

If you were to take 100 randomly chosen pregnant women from the Hlabisa area, on average, how many do you think might have HIV?

If you were to take 100 randomly chosen men who are employed as agricultural workers in this area, on avearge how many do you think might have HIV?

Here is a list of ways that the spread of HIV can be reduced in the community. Rank them in importance.

More community/public education
More school education
More use of condoms
Early and effective treatment of STDs
Compulsory HIV testing
More education of health workers

Is AIDS curable?

If yes, how or by whom?

Some people say that having STDs can increase the risk of getting AIDS, others say that it makes no difference. What do you think?

In your opinion is community health education about STDs taking place? Enough
Too much
Too little

How can community education about STDs be improved?

(b) Diagnosis and treatment

Do you have a standard treatment protocol for STDs?

If yes, where is this from?

If no, what do you base your treatment on?

How often do you run out of the necessary drugs or medication for STDs? Often
Rarely
Never

Which patients do you ask to return for follow-up? All
Only if not better
Some
None

How do you arrange to follow-up your patients?

What do you do for patients who do not get better?

How frequently do you perform a vaginal examination on women who present with a vaginal discharge?

Routinely
Most times
Sometimes
Rarely
Never

Do you ever refer patients to the hospital or clinic for treatment of STDs?

If yes, how often and what are the indications?

Do you ever advise patients to go to GPs for treatment of STDs?

If yes, how often and what are the indications?

(c) Accessibility of services

How much does it cost the patient to have: an ulcer treated?
a discharge treated?

Are fees paid per consultation, or until the condition is cured?

At what times of the day are patients able to see you about STDs, and how many days a week?

(d) Counselling

Do you educate and counsel your patients about STDs? Y or N or sometimes

If no, does anyone else counsel and educate patients with STDs?
If yes, who?

Below are a list of issues on STDs. Which of these issues are routinely part of your counselling?

Cause of STDs and means of spread of STDs
Encourage to practice monogamy
Encourage to avoid casual sex
Encourage to use condoms
Abstain from intercourse until completely healed
Counsel on the need totreat contacts
Educate to patient that people with STDs may be asymptomatic
Stress the importance of drug compliance
Inform that STDs increase tha chance of getting HIV/AIDS
Educate about the complications of STDs such as infertility

On average, how much time do you spend on each patient with an STD? 0-5 mins
5-10 mins
10-15 mins
> 15 mins

How many times will a patient with an STD have to see you before he/she is fully treated?

Do you have guidelines on counselling for STDs and healthy sexual behaviour?

Would guidelines be useful?

Do you have a leaflet to give to patients with information about STDs?

If no, would this be useful?

(e) Condom provision

Do you encourage the use of condoms?

Are condoms used commonly by people in the community?

How is it possible to get condoms used more regularly?

Do you have condoms available to patients at your workplace?

Where do you get your supply of condoms from?

How much do you charge each patient for condoms?

If condoms are provided for free, how many do you give to a person who has an STD?

How many patients with STDs request condoms?

Most
Some
Few
None

In the last month, how many times have you taken out a condom from its packet and shown a patient how it is used?

None
1-5 times
6-10 times
11-20 times
> 20 times

Is there anyone else at your workplace who teaches people how to use condoms?

Have you ever used a condom yourself?

Yes
No
No answer

(f) Contact Tracing

When you see someone with an STD does anyone else also need treatment?

If yes, who?

Explain fully, and say if there any differences between the sexes.

What mechanism do you use for tracing these people?

(g) Further education and training of health personnel

Have you received any formal teaching or training on the management of STDs in the last 2 years?

If yes, how many times?

If yes, by whom?

Where do you get your information on the correct management and treatment of STDs?

Have you taught another health worker about the correct management and treatment of STDs in the last year?

Do you feel a need for continuing education and information on the topic of STDs?

If yes, specify:

APPENDIX 4: Semi-structured interview schedule for traditional healers

UKUBHEKA INDLELA OKULASWHA NGAYO IZIFO ZOCANSI KWAHLABISA.

Umsebenzi owenzayo:
Iminyaka:
Imininingwane yomsebenzi:
Iminyaka usebenza njengonompilo:
Iminyaka osuyisebenzile kuze kube manje:

(a) Ulwazi, ukuqonda kanye nemicabango yezisebenzi zezempilo

1. Ngabe zikhona yini izifo ezithathelwana ngocansi?

   Uma kuwu yebo, zibhale phansi futhi uzichaze.

2. Zibangwa yini zona lezizifo.

   Yingabe zikhona yini ezinye izifo ezingedala izimpawu zizifo zocansi?

4. Yibaphi abantu abathola izifo zocansi.

5. Yini ebanga izifo zocansi zibhebhetheke:

   Ukuba nabangani bacansi abaningi
   Ucansi olungaphephile
   Ucansi kubantu abangathandani
   Ukuqala ukuya ocansini usemncane kakhulu
   Ucansi ngobe udinga ukukhokhelwa
   Izinhlobo ezithile zokuhlela umdeni
   Ukuqwayiza
   Igciwane lengculazi

6. Yiziphi izinkinga ezesemphakathi ezenza izifo zocansi noma ezinobudlelwane nezifo zocansi:

   Ukusebenza kude nasekhaya
   Ukweswela/ukuhlupheka
   Ukuma kahle kwezezimali

7. Uyazibona iziguli ezinezifo zocansi emsebenzini wakho?

8. Yingabe izifo zocansi ziyinkinga enjwayelikile kumphakathi wakwaHlabisa?
Sijwayeleka kakhulu

Sijwayelekile
Sijwayeleka kancane
Ngankathi
Angikazi ngibone

9. Okubhalwe ngenzansi uhla lwezinkinga zezimpilo eziphatha abantu abadala kulindawo: Khetha ezinhlanu ezibalulekile kuzona.

Abakhulelweyo kanye nokunakekelwa kwabatetayo.
Isifo sokucinana kwesifuba.
Umdlavusa
Uhudo/Ukukhishwa isisu
Izifo zenhliziyo
Igciwane lengculazi/igculazi egcwele
Ukungabatholi abantwana
Umalaleveva
Izifo zokudideka kwengqondo
Izifo ezithathelwana ngokocansi
Ukulimala
Isifo sofuba

10. Kungenzeka yini umuntu abe nogcusula ngaphandle kokuba avele izimpawu zokugula? Uma kuwuyebo, yibaphi abantu ababa nalenkinga

11. Bhala imiphumela emibi eyisihlanu engabangelwa yizifo zocansi.

1. Ukukhulelwa ngaphandle kwesibeletho
2. Igciwane lengculazi
3. Ukungabatholi abantwane
4. Ukuphuphunyelwa isisu
5. Ukufa kwengane ingakazalwa
6. Izifo ingane ezalwa nazo
7. Amehlo akhihlizayo enganeni encane
8. Umdlavuza wesibeletho
9. Uncipho kwembobo yokuchama
10. Amagciwane emzimbeni wonke

If infertility is not mentioned Yini ebanga bangabatholi abantwana?

If congenital disease is not mentioned, Kungenzeka yini ingane esanda kuzalo igule ngenxa yezifo zocansi ezithola kumama?

12. Okubhalwe ngenzansi kuyizindlela ezingasetshenziswa ezingenziwa ngcono. Khetha ezinhlanu kuzo ezibalulekile.

Ukubonwa nokuhlolwa okuseqopheleni elingcono
Ukululekwa ngongokuvikela kanye nocansi oluphephile
Ukufundiswa komphakathi ngezinkinga ezisemphakathi
Ukuba nohlaka olufanayo mayelana nokulapha izifo zocansi
Ukuthola umngani womuntu onesifo socansi
Ukukuthaza ukusebenzisa ijazi kwezocansi
Ukukuthaza ukubuya uzohlolwa emtholompilo
Ukufundiswa kabanzi kwabahlengikazi ngezifo
Ukuzwelana futhi nokwamukelo kahle abantu abanezifo zocansi
Umtholampilo izifo zocansi lapho kubonwa bona bodwa
Imitholampilo ezindaweni ezahlukene

13. Iyini ingculazi? Angabe akhona yini amagama esetshenziswa ukuchaza lesisifo?

Yiziphi izimpawu ezikhombisa lesisifo

14. Ingabe abantu abanalesisifo bayazizwa noma babukeka begula?
Chaza:

15. Yini umehluko phakathi komuntu onegciwane lengculazi noma onengculazi?

16. Yisho izindlela ezahlukene abantu abangathola ngayo igciwane lengculazi:
    Ukulalana ngokocansi
    Ukudlula kwegazi liya enganeni ngenkaba/umzanyana
    Ngokufakelwa igazi
    Ngokuncelisa
    Ngokugcatshwa noma ngokusetshenziswa kwenalithi ebisetsenziswa omunye umuntu
    Ngokuhlatshwa inalithi

17. Ijwayeleke kangakanani ingculazi kulesifunda sakwaHlabisa?
    Ijwayeleke kakhulu
    Ijwayelekile
    Ayijwayekile kangako
    Ibakhona nje
    Ayikaze ibekhona

18. Uma kungathathwa abantu abayikhulu abakhulelwa lapha kwa Hlabisa noma ibaphi, bangaki abangatholakala benegciwane lengculazi?

19. Uma kungathathwa abantu abayikhulu abesilisa abaqashwe njengabalimi kulendawo bankaki abangatholakala benegciwane lengculazi?

20. Nantu uhla lwezindlela ezingenza isifo sengculazi singabhebhetheki zibhale ngobumqoba bazo:

Ukufundiswa komphakathi
Ukufundiswa ezikoleni
Ukusetshenziswa kwejazi kakhulu
Ukulashelwa izifo zocansi kusanda kuvela izimpawu
Ukuphoqelelwa ukuhlolelwa igciwane lengculazi
Ukufundiswa kwabezempilo

21. Iyelapheka yini ingculazi?

Uma kuwuyebo, kanjani noma ngubani?

22. Abanye abantu bathi ukuba nezifo zocansi kwenyusa ingozi yokuthola ingculazi, abanye bathi lokhu akwenzi mehluko. Wena, ucabangani?

23. Ngokwakho ukubona umphakathi uyafundiswa yini ngezifo zocansi.

Ukufundiswa komphakathi ngezifo zocansi kungenziwa kanjani ngcono?

(b) Izifo nokwalashwa

1. Owesilisa ufika nesilonda esisodwa epipini esibuhlungu.

Yisiphi isifo sokuqala ongasicabanga?

Kukhona ukuhlolwa enikwenzayo kulesisiguli?

Uma yebo, yini?

Yikuphi ukwelashwa enimnikeza khona, isikhathi esingakanani?

2. Owesifazane ufika nesilonda esisodwa ngaphambili esibuhlungu.

Yisiphi isifo sokuqala ongasicabanga?

Kukhona ukuhlolwa enikwenzayo kulesisiguli?

Uma yebo, yini?

Yikuphi ukwelashwa enimnikeza khona, isikhathi esingakanani?

3. Owesilisa ufika kuwe ne"drop"/ovusayo ngaphambili.

Yisiphi isifo sokuqula ongasicabanga?

Kukhona ukuhlolwa enikwenzayo kulesisiguli?

Uma yebo, yini?

Yikuphi ukwelashwa enimnikeza khona, isikhathi esingakanani?

4. Uma owesifazane enenkinga yamanzana aphuma ngaphambili ashubile anamagwebu aphuzi saluhlaza?

Yisiphi isifo sokuqula ongasicabanga?

Yikuphi ukwelashwa enimnikeza khona, isikhathi esingakanani?

5. Yikuphi ukwelashwa enikunike owesifazane onenkinga yamanzana amhlophe alumayo?

11. Unalo yini uhlaka olusebenzisayo olufanayo ekwelapheni izifo zocansi.

Uma kuwuyebo, waluthataphi?

Uma kuwucha, yiyiphi indlela oyisebenzisayo ekwelapheni.

12. Kuye kwenzeke yini uphelelwe imithi yokulapha izifo zocansi?

Azichaze kabansi izinyanga:

13. Yiziphi iziguli ozicela ukuba ziphinde zibuye futhi?

14. Wenza kanjani ukuthi ulandela iziguli zakho?

15. Wenzenjani ngeziguli ezingabi ngcono?

18. Uke uzidlulisele iziguli ezinesifo socansi esibhedlela noma emtholampilo ukuba zelashwe?

Umakuyebo, kangaki noma yiziphi izimpawu.

20. Uke uzeluleke iziguli ukuba ziye kodokotela abangaphandle?

Umakuyebo, kangaki noma yiziphi izimpawu.

Onompilo

1. Wenzenjani uma kufika kuwe umuntu onesifo socansi?

2. Uke usihlole yini isiguli sakho?

3. Ungakwazi ukutshela umuntu wesilisa umehluko phakathi kwesilona noma ukuvuza?

   Umakuwu yebo, yini umehluko?

4. Ungakwazi ukutshela umuntu wesifazane umehluko phakathi kwesilona noma ukuvuza?

   Umakuwu yebo, yini umehluko?

5. Uke uzeluleke iziguli ukuba ziye ezinyangeni ukuyolashelwa izifo zocansi.

6. Uke uzeluleke iziguli ukuba ziye emtholampilo noma esibhedlela ukuyolashwa izifo zocansi?

(c) Ukufinyelela ezindaweni ezimosizo

1. Kubiza malini ukulapha isiguli esinesilonda?

   Kubiza malini ukulapha isiguli esivuzayo ngaphambili?

2. Imali ikhokhwa njalo uma uzobonwa noma ususindile?

4. Yisiphi isikathi otholakala ngaso ukubona iziguli ezinesifo sogcusula?

   Ngangaki ngesonto?

(d) Ukweluleka

1. Uke ufundise noma weluleke iziguli zakho mayelane ngezifo zocansi.

2. Uma kuwucha, ukhona yini omunye ofundisayo/olulekayo ngezifo zocansi?

3. Ngenzansi uhla mayelana nezifo zocansi, yikuphi eniye nikusebenzise ekwalulekeni

   Yimbangela yezifo zocansi nendlela yokusabalala kwazo
   Ukuba nomngane oyedwa
   Ukwenza umuntu ayeke ucansi ngenxa yokusizana
   Ukugcizelela ukusetshenziswa kwejazi
   Ukungahlangani ngokocansi kuze kuphole izilonda
   Ukweluleka ngesidingo sokubaluleka ukwelapha abangani kwesocansi.
   Ukufundiswa iziguli ukuthi abantu abezifo zocansi kwesinye isikathi abakhombisi zimpawu.
   Gcizelela ukubaluleka kokuthatha amaphilisi/imithi ngendlela otshelwe ngayo aze aphele.
   Zingenza ube sengozini ukuthola ingculazibo

Ukufundiswa ngemiphumelo emibi ngenxa izifo zocansi, eg. njengokuzala.

4. Singakanani isikathi osichithayo uma unesigula esinesifo socansi?
   0-5mins
   5-10 mins
   10-15 mins
   > 15 mins

5. Unalo yini uhla olusebenzi sayo uma weluleke ngezifo zocansi futhi ngezindlela eziphephile zocansi?

   Ingabe loluhla luwusizo?

   Ungalusebenzisa yini?

6. Unawo amabugwana akhuluma ngezifo zocansi?

   Angaba nalo yini usizo?

(e) Condom provision

1. Take out a condom and ask, Yini lena?

   If they do not know, take the condom out of the packet and ask, Yini lena?

2. Isetshenziweleni?

3. Uyabakuthaza ukuba basebensise ijazi?

4. Yingabe umphakathi ujwayele ukusebenzisa iCondomu/ijazi?

5. Yingabe kulula ukuthola iCondomu/ijazi noma yinini?

   Kanjani?

6. Ngabe ahlala ekhona amajazi lapho usesebenza khona?

7. Uwalanda/Utholaphi amajazi?

8. Abiza malini ezigulini ngasinye iCondomu/ijazi?

9. Uma itholakala mahala, mangaki owenikeza umuntu onesifo zocansi?

10. Zingaki iziguli ezinesifo socansi ezicela amaJazi?

11. Enyangeni edlule, kukangaki uvula ipakethe lecondom ukhombisa iziguli ukuthi

isethshenziswa kanjani? Angikaze
1 - 5 times
6 - 10 times
11 - 20 times
> 20 times

12. Ngabe ukhona yini enisebenza naye ufundisayo ngokusetshenziswa kwejazi?

13. Wake wayisebenzisa iCondomi/ijazi ngaphambili?

Onompilo

1. *Show a condom and ask them what it is.* Yini lena?

   If they don't know take out of packet and ask, Yini lena?

2. Wake wezwa ngeCondom/ijazi ngaphambili?

3. Isetshenziswelani?

4. Uyabakuthaza ukuba basebensise ijazi?

5. Wake wafundiswa ukuthi isetshenziswa kanjani?

6. Wake wayisebenzisa yini nomyeni iCondom?

7. Ngabe ukhona yini owake wakubuza emphakathini wangakini ukuthi iCondom isetshenziswa kanjani?

   Uma kuwucha, yini indaba uma ucabanga?

8. Yingabe umphakathi ujwayele ukusebenzisa iCondomu/ijazi?

9. Yingabe kulula ukuthola iCondomu/ijazi noma yinini?

   Kanjani?

10. Abanye abantu bathi onompilo kumele banikeze amajazi emphakathini. Uyavumelana nalokhu?

(f) Ukuthola abathelelekile

1. Uma ubona umuntu onesifo socansi uke ucabange ukwelapha omunye?

   Uma uthi yebo, ubani?

Chaza ngokuphelela futhi usho ukuthi ngobe ukhona yini umehluko phakathi kwabesifazane nabesilisa.

2. Yiyiphi indlela oyisebenzisayo ukuthola abanti abathelelekile?

3. Yini ongayenza ngcono ukushintsha isamba sabantu abathola lesisifo kubangani bocansi ukuze beze ukuzolashwa?

(g) Further education and training

1. Wake wafundiswa noma ukufundele ukwelapha isifo socansi eminyakeni emibili edlule?

   Uma kuwuyebo, kangaki?

   Uma kuwuyebo, obani abakufundisile?

2. Waluthathaphi ulwazi olulungile lokwelapha izifo zocansi ?

3. Wake wabafundisa abanye ozakwenu indlela elungile yokwelapha izifo zocansi ngonyaka odlule?

4. Ubona kudengekile ukuba kuqhutshekwe ukuba ufundiswe ngezifo zocansi?

   Uma kuwuyebo, chaza.

Appendix 5: Data capture form for findings from patient simulation exercise

Accessibility

1. How long did you have to wait before you were seen by the health provider?

2. Were there any health promotion materials about STDs or AIDS available to read or watch while you were waiting?

   If yes, specify:

History and examination:

1. Did the health worker ask you about:

   - the symptoms and duration of the illness?
   - pain when having sex?
   - heavy or irregular periods?
   - bleeding after coitus?
   - the number of sexual partners you have?
   - your partner or partners' occupation and sexual behaviour?
   - your use of condoms during intercourse?
   - casual sex, prostitution, sex with strangers or receiving money or gifts in exchange for sex?
   - the dates of your last menstrual period?

2. Did the health worker request to examine you?

3. Did the health worker suggest or offer to perform a PAP smear?

Diagnosis and treatment:

1. Did the health provider tell you what was wrong with you?
   If yes, what diagnosis did he or she give you?

2. What did he say was the cause of this illness?

3. What treatment did he/she give you?

4. Was the treatment clearly explained to you?

5. Did the health provider tell you to complete the full course of treatment even if you feel better?

6. Was any treatment offered to your partner?

   If yes, what?

7. Were you asked to return for a folow-up?

   If yes, when?

Counselling

1. Were you given counselling and education about the following:
   - encouraged to have one, safe sexual partner?
   - discouraged from having sex with strangers or casual partners.
   - encouraged to use condoms?
   - abstain from intercourse until cured and until treatment completed.
   - all recent sexual partners need to be treated as well.
   - STDs increase yhe risk of infertility
   - STDs increase the risk of getting AIDS.
   - STDs increase the risk of having spontaneous abortions and congenital disease.

2. Were you given any counselling or education about AIDS?

   If yes, which of the follwoing was mentioned:

   - AIDS is an incurable disease that is spread by sexual intercourse.
   - Both women and men can get AIDS.
   - There are many people in this area who already have the illness.
   - You cannot tell which person has the AIDS test without doing a blood test.
   - You can protect yourself from AIDS by having one safe sexual partner.
   - You can help protect yopurself from AIDS by using condoms.

Condoms

1. Did the health provider encourage the use of condoms?

2. If yes, what reason did he give for this?

3. Did the health provider or anyone else explain and teach how they are used?

   If yes, who and what was done?

4. Were any condoms offered to you?

   If yes, how many were given?

Contact Tracing

1. Did the health provider say that all your recent sexual partners should also be treated?

2. Did he/she ask you to tell your partners to come for treatment?

3. Did he/she give a date?

4. Did he/she give you a contact tracing cards for your partner?

Quality of consultation

1. What was the attitude of the health provider:

   sympathetic and friendly?
   neutral?
   unsympathetic and impersonal?
   scolding and outwardly unfriendly?

2. How long did the whole consultation take place?

Appendix 6: Structured interview with patients presenting to hospital OPD.

Questions:

1. What is the condition that has brought you to hospital today?

2. What is the cause of this condition?

   Is there anything else that can cause this illness?

3. Could any of the following have caused this illness?

   - umeqo
   - people making bad wishes or casting spells
   - taking certain types of pills (if yes, what kinds?)
   - contraception (if yes, what kinds?)
   - upsetting ancestral spirits

4. How did you get this condition?

5. When did it begin and what symptoms did you notice first?

6. What did you do when you first noticed that there were symptoms?

7. How long did you wait before seeking treatment?

   If there was a delay in presenting to a health provider, why did you wait?

8. Is this illness a severe illness? If yes, why?

9. Can you name any possible complications of this illness?

10. Is AIDS a possible complication of this illness?

11. Is infertility a possible complication of this illness?

12. Did you continue to have sexual intercourse whilst suffering from the present condition? If no, why not? If yes, was it difficult or painful?

13. Did your behaviour change as a result of having this illness (eg. did you use condoms, did you avoid a person or people)?

14. Today you have come to the hospital to have this illness treated. List all the other health providers that you have seen for this illness, including traditional healers. Write down where, how many times and when they were seen.

(i)

(ii)

(iii)

(iv)

15. Why did you go to these different health providers?

16. Is it always necessary to see a traditional healer for an STD?

17. Is there any difference in seeing a traditional healer and a western doctor? If yes, explain what the difference is.

18. What did the health provider tell you about:

- the cause of the illness
- the transmission of the illness
- the dangers and complications of the illness

19. What did the health provider tell you about how this illness would be treated? What drugs were prescribed for your condition?

20. What did the health provider tell you about how to prevent yourself from getting this illness again?

21. What did the health provider tell you about your sexual partners?

22. What did the health provider tell you about the use of condoms?

Were you provided with condoms or told where you could get some?

23. What did the health provider tell you about what you must do until you have been treated and cured?

24. What was the health provider's attitude towards you?

25. How did you feel about the health provider? Would you go back again? If no, why not?

26. Was there anything that could have been improved?

27. Have you had a sexually transmitted illness before? If yes, please name and describe them.

28. Which health providers did you see in the past for each of these illnesses?

    Describe your experiences with each of these health providers:

29. How do you feel about health providers notifying your partners about the risk for sexually transmitted illnesses? Would this be better or worse than telling your partner yourself? Why and why not? What is the best way of ensuring that sexual partners are treated?

30. Where in the community would be a good place to distribute condoms?

The following questions are asked about STDs in general, and not about the curent STD that the patient has.

Hospital

31. Can anyone receive treatment at the hospital?

32. Are there reasons that would make it less acceptable for a man or a woman to go to the hospital?

33. Would a woman need permission from her partner or husband to visit the hospital?

34. What are the advantages of going to the hospital for an STD? Why?

35. What are the disadvantages of going to a hospital for an STD? Why?

Private doctor

36. Can anyone receive treatment at the private doctor?

37. Are there reasons that would make it less acceptable for a man or a woman to go to the private doctor?

38. Would a woman need permission from her partner or husband to visit the private doctor?

39. What are the advantages of seeing a private doctor for this illness?

40. What are the disadvantages of seeing a private doctor for this illness?

Clinic nurse

41. Can anyone receive treatment at the clinic?

42. Are there reasons that would make it less acceptable for a man or a woman to go to the clinic?

43. Would a woman need permission from her partner or husband to visit the clinic?

44. What are the advantages of seeing a clinic nurse for this illness?

45. What are the disadvantages of seeing a clinic nurse for this illness?

Traditional healer

46. Can anyone receive treatment at the traditional healer?

47. Are there reasons that would make it less acceptable for a man or a woman to go to the traditional healer?

48. Would a woman need permission from her partner or husband to visit the traditional healer?

49. What are the advantages of seeing a traditional healer for this illness?

50. What are the disadvantages of seeing a traditional healer for this illness?

References

1. Wilson D, Lavelle S. AIDS prevention in South Africa. *S Afr Med J*, 1993; 83:668-674.

2. Wasserheit JN. Epidemiological synergy: Inter-relationships between HIV infection and other STDs. *Sex Transm Dis* 1992; 19:61-77.

3. Laga M, Nzila N, Manoka AT. Non-ulcerative sexually transmitted diseases as risk factors for HIV-1 transmission. *Sixth International Conference on AIDS* 1990, San Francisco: Abstract T.C 97.

4. Grosskurth H, Mosha F, Todd J et al. Impact of improved treatment of sexually transmitted diseases on HIV infection in rural Tanzania: Randomised controlled trial. *Lancet* 1995; 346: 530-36.

5. Anonymous. Fifth national HIV survey of women attending antenatal clinics, South Africa. *Epidemiological Comment* 1995; Volume 22(5).

6. Khanna J, van Look PFA and Griffin PD. Reproductive health: A key to a brighter future. *WHO Biennial Report* 1990-1991; Geneva.

7. Buve A, Laga M, Piot P. Sexually transmitted diseases: Where are we now? *Health Policy and Planning* 1993; 8(3): 277-81.

8. Wasserheit JN. The significance and scope of reproductive tract infections among third world women. *Int J of Obs and Gyn* 1989; Suppl 3:145-168.

9. Over M and Piot P. HIV Infection and sexually transmitted diseases, in Jamison DT and Mosley WH (eds.), *Disease Control Priorities in Developing Countries* 1991; New York,

Oxford University Press.

10. The World Bank. Investing in Health: *World Development Report* 1993; Oxford University Press, New York.

11. Khanter P. The epidemiology of sexually transmitted diseases in South Africa. *Unpublished report* 1995; South African Institute of Medical Research (SAIMR): Pretoria.

12. Coetzee DJ, Ballard RC. Controlling the epidemic of sexually transmitted diseases in South Africa - the role of syndromic management. *Cont Med Education* 1996; June: 819-28.

13. Matondo P. National STD trends in Zambia:1987-1989. Letter to *Genitourin Med* 1992; 68:192.

14. Meheus A. Van Dyck L, Ursi JP et al. Aetiology of genital ulcerations in Swaziland. *Sex Transm Dis* 1983; 10:33-35.

15. Tswana SA, Nystron L, Moyo SR et al. Hospital-based study of STDs at Murewa District Hospital, Zimbabwe. *5th Joint Congress of the Sexually Transmitted Diseases and Infectious Diseases Societies of Southern Africa* 1995; Durban.

16. Frame G, Ferrinho PLGM, Phakathi G. Patients with sexually transmited diseases at the Alexandra Health Centre and University Clinic. *S Afr Med J* 1991; 80:389-92.

17. Anonymous. The diagnosis and management of sexually transmitted diseases in South Africa. 1991; Department of National Health and Population Development, Pretoria.

18. O'Farrell N, Hoosen AA, Coetzee K, van der Ende J. Genital ulcer disease in men and women in Durban, South Africa. *Genitourin Med* 1991; 67: 322-330.

19. Matthews C, van Rensburg A, Schierhout G et al. Missed opportunities for reducing the spread of HIV in patients with other STDs attending a Cape Town clinic. *Unpublished report* 1994; Medical Research Council and Cape Town City Council Health Department, South Africa.

20. Dietrich M, Hoosen AA, Moodley J , Moodley S. Urogenital tract infections in pregnancy at King Edward Hospital, Durban, South Africa. *Genitourin Med* 1992; 68:39-41.

21. Frank O. Infertility in sub-Saharan Africa: Estimates and implications. *Population and Development Review* 1983; 9(1):137-44.

22. Hook EW, Handsfield HH. Gonococcal infections in the adult, in Holmes KK et al (eds.), *Sexually Transmitted Diseases* 1990; 2nd edition, McGraw-Hill, New York.

23. Anonymous. *STD Newsletter No.1*; 1995. South African Institute for Medical Research: Pretoria.

24. Ballard R, Fehler HG, Piot P. Chlamydial infections of the eye and genital tract in developing countries, in Oriel JD, Ridgeway G, Schachter J, Taylor-Richardson D and Ward M (eds.), *Proceedings of 6th international symposium on human chlamydial infections.* 1986. Cambridge: Cambridge University Press.

25. Anonymous. Controlling STDs. *Population Reports* June 1993, Series L number 9. Produced by Johns Hopkins School of Hygiene and Public Health, USA.

26. Wasserheit JN, Holmes KK. Reproductive tract infections: Challenges for international

health policy, programs and research, in Germain A, Holmes KK, Piot P, Wasserheit JN (eds.), *Reproductive Tract Infections: Global impact and priorities for women's reproductive health* 1992; Plenum Press, New York.

27. Arno JN, Katz BP, McBride R et al. Age and clinical immunity to infections with chlamydia trachomatis. *Sex Transm Dis* 1994; 21:47-52.

28. Greenburg J, Magder L, Aral S. Age at first coitus: A marker for risky sexual behaviour in women. *Sex Transm Dis* 1992; 19(6):331-4.

29. Jessamine PG, Plummer FA, Ndinya-Acola JO et al. Human immunodeficiency virus, genital ulcers and the male foreskin: synergism in HIV-1 transmission. *Scand J Infect Dis* 1990, suppl 69:181-6.

30. O'Farrell N, Hoosen AA, Coetzee K, and van der Ende J. Sexual behaviour in Zulu men and women with genital ulcer disease. *Genitourin Med* 1992; 68:245-8.

31. Brown RC, Brown JE and Ayowa OB. The use and physical effects of intravaginal substances in Zairean women. *Sex Transm Dis* 1993; 20(2): 96-9.

32. Hart G. Factors influencing venereal infection in a war environment. *Br J Venereal Dis* 1974; 50:68-72.

33. Jochelson K, Mothibeli M, Leger JP. HIV and migrant labour in South Africa. *Int J Health Services* 1991; 21:157-73.

34. Moodie TD. Migrancy and male sexuality on the South African gold mines. *J Southern Afr Studies* 1988; 14: 228-56.

35. Piot P, Holmes KK. Sexually transmitted diseases, in Warren K, Mahmoud A (eds.), *Trop Geogr Med* 1989; New York: McGraw-Hill.

36. Over M, Piot P. HIV infection and sexually transmitted diseases, in Jamison DT, Mosley WH (eds.), *Disease control priorities in developing countries* 1991; New York, Oxford University Press.

37. Simonsen JN, Cameron DW, Gakinya MN et al. Human immunodeficiency virus infection among men with sexually transmitted diseases. *N Engl J Med* 1988; 319:274-78.

38. O'Farrell N, Windsor I, Becker P. HIV infection amongst heterosexual attenders at a sexually transmitted disease clinic in Durban. *S Afr Med J* 1991; 80:17-20.

39. Laga M, Alary M, Nzila N et al. Condom promotion, STD treatment, and declining incidence of HIV-1 infection in female Zairean sex workers. *Lancet* 1994; 344:246-8.

40. Grosskurth H, Mosha F, Todd J et al. Impact of improved treatment of sexually transmitted diseases on HIV infection in rural Tanzania: Randomised controlled trial. *Lancet* 1995; 346: 530-36.

41. Cameron DW, Simonsen JN, D'Costa LJ et al. Female to male transmission of HIV: Risk factors for seroconversion in men. *Lancet* 1989; 2:403-7.

42. Chiphangwi J, Dallabetta G, Saah A et al. Risk factors for HIV infection in pregnant women in Malawi. *6th International AIDS Conference*, 1990; San Fransisco: Abstract number Th.c.98.

43. Holmberg SD, Stewart JA, Gerber AR et al. Prior herpes simplex virus type-2 infection as a risk factor for acquiring HIV infection. *JAMA* 1988; 259:1048-50.

44. Laga M. HIV prevention: The need for complimentary STD control, in Germain A, Holmes KK, Piot P, Wasserheit JN (eds.), *Reproductive tract infections: Global impact and priorities for women's reproductive health,* 1992; New York, Plenum Press.

45. Laga M, Manoka A, Kivuvu M et al. Non-ulcerative STDs as risk factors for HIV-1 transmission in women: Results from a cohort study. *AIDS* 1993; 7: 95-102.

46. Plummer FA, Simonsen JN, Cameron DW et al. Co-factors in male-female transmission of HIV. *J Infect Dis* 1991; 163:233-39.

47. Wasserheit JN. Epidemiological synergy: Inter-relationships between HIV infection and other STDs. *Sex Transm Dis* 1992; 19:61-77.

48. Cameron DW, Plummer FA, D'Costa LJ et al. Prediction of HIV infection by treatment failure for chancroid. *4th International AIDS Conference* 1991; Stockholm: Abstract number 7637.

49. Cameron DW, Plummer FA, D'Costa LJ et al. Prediction of HIV infection by treatment failure for chancroid. *4th International AIDS Conference* 1991; Stockholm: Abstract number 7637.

50. Wasserheit JN. Epidemiological synergy: Inter-relationships between HIV infection and other STDs. *Sex Transm Dis* 1992; 19:61-77.

51. Grosskurth H, Mosha F, Todd J et al. Impact of improved treatment of sexually transmitted diseases on HIV infection in rural Tanzania: Randomised controlled trial. *Lancet* 1995; 346: 530-36.

52. Westrom L, Wolner-Hanssen P. Pathogenesis of pelvic inflammatory disease. *Genitourin Med* 1993; 69(1):9-17.

53. Over M, Piot P. HIV infection and sexually transmitted diseases, in Jamison DT, Mosley WH (eds.), *Disease control priorities in developing countries* 1991; New York, Oxford University Press.

54. Westrom L. Effect of acute pelvic inflammatory disease on infertility. *Am J Obstet Gynaecol* 1975; 121:707-13.

55. Cates W, Farley TMM, Rowe PJ. Worldwide patterns of infertility: Is Africa different? *Lancet* 1985; 2:596-8.

56. Frank O. Infertilty in sub-Saharan Africa: Estimates and implications. *Population and Development Review* 1983; 9(1):137-44.

57. Temmerman M, Laga M, Ndinya-Achola JO et al. Aetiology of post-partum endometritis in Nairobi, Kenya. *Genitourin Med* 1988; 64:172-75.

58. Laga M, Nsanze H, Plummer FA et al. Epidemiology of ophthalmia neonatorum in Kenya. *Lancet* 1986; 2:1145-48.

59. Plummer FA, Laga M, Brunham RC et al. Post-partum upper genital tract infections in Nairobi: Epidemiology, aetiology and risk factors. *J Infect Dis* 1987; 12:150-55.

60. Hira SK, Hira RS. Congenital Syphilis, in Osaba AO (ed.), *Sexually transmitted diseases in the tropics* 1987; London, Balliere's Tindall.

61. Over M, Piot P. HIV infection and sexually transmitted diseases, in Jamison DT, Mosley

WH (eds.), *Disease control priorities in developing countries* 1991; New York, Oxford University Press.

62. Moses S, Plummer FA and Ngugi EN. Controlling HIV in Africa: Effectiveness and cost of an intervention in a high frequency STD transmitter core group. *AIDS* 1991; 5:407-11.

63. Laga M, Diallo MO and Buve A. Inter-relationship of STD and HIV: Where are we now? *AIDS* 1994: 8(suppl):s246-8.

64. Hethcote HH, Yorke JA. Gonnorhea transmission and dynamics. Lecture notes 1984, quoted in Over M, Piot P. HIV infection and sexually transmitted diseases, in Jamison DT, Mosley WH (eds.), *Disease control priorities in developing countries* 1991; New York, Oxford University Press.

65. Danielsson D. Gonorrhea and syphilis in Sweden - Past and present. *Scand J Inf Dis* 1990; 69:69-76.

66. O'Farrell N, Hoosen AA, Coetzee K, and van der Ende J. Sexual behaviour in Zulu men and women with genital ulcer disease. *Genitourin Med* 1992; 68:245-8.

67. Zekeng L, Feldblum PJ, Oliver RM, Kapute L. Barrier contraceptive use and HIV infection among high-risk women in Cameroon. *AIDS* 1993; 7: 725-31.

68. Louv WC, Austin H, Alexander WJ, et al. Clinical trial of Nonoxyl-9 for preventing gonococcal and chlamydial infection. *J Infect Dis* 1988; 158:518-23.

69. Masango ED, Rakolojane MJ. Sexually transmitted diseases baseline survey, Mbabane. Family Life Association of Swaziland 1987, cited by Green EC, Sexually transmitted disease, ethnomedicine and health policy in Africa. *Soc Sci Med* 1992; 35:121-130.

70. Moses S, Firoze M, Bradley J, et al. Impact of user fees on attendance at a referral centre for STDs in Kenya. *Lancet* 1992; 340:463-6.

71. Decosas J, Kane F, Anarti JK, et al. Migration and AIDS. *Lancet* 1995; 346:826-8.

72. Thaddeus S, Maine D. Too far to walk: Maternal mortality in context. *Soc Sci Med* 1994; 38(8):1091-1110.

73. Brabin L, Kemp J, Orikomaba KO, et al. Reproductive tract infections and abortions among adolescent girls in rural Nigeria. *Lancet* 1995; 344:300-304.

74. McCoy D. Free health care for pregnant women and children under six years: An impact assessment. Published by Health Systems Trust, South Africa; 1996.

75. Plummer FA, Laga M, Brunham RC, et al. Postpartum upper genital tract infections in Nairobi: Epidemiology, aetiology and risk factors. *J Infect Dis* 1987; 12:150-55.

76. Pascoe M. Personal communication, 1995. City of Harare Department of Infectious Disease, Zimbabwe.

77. Frame G, Ferrinho PLGM, Wilson TD. The care of patients with STDs: Review of previous research and a survey of General Practitioners. *S Afr Fam Pract* 1991; 2:87-92.

78. Arya AP. Tropical Venereology 1989; Chapter 18:327-349: Churchill/Livingstone, London.

79. Anonymous. Report of the Informal Technical Group Meeting on STD Activities in the Global Programme on AIDS. World Health Organisation 1993; WHO/GAP/STD/93.1.

80. Schneider H, Coetzee DJ, Fehler HG, et al. Genital infections among family planning clinic attenders in a rural area of the Eastern Transvaal. *5th Joint Congress of the Sexually Transmitted Diseases and Infectious Diseases Societies of Southern Africa* 1995, Durban.

81. Hoosen AA. The aetiology and diagnosis of vaginal infections in Durban. *5th Joint Congress of the Sexually Transmitted Diseases and Infectious Diseases Societies of Southern Africa* 1995, Durban.

82. Dangor Y, Ballard RC, Exposto F, et al. Accuracy of clinical diagnosis of genital ulcer disease. *Sex Transm Dis* 1995; 17:184-189.

83. Rothenberg R. The clinical diagnosis of urethral discharge. *Sex Transm Dis* 1983; 10:24-8.

84. Fast MV, D'Costa IJ, Nsanze H, et al. The clinical diagnosis of genital ulcer disease in men in the tropics. *Sex Transm Dis.* 1984; 11:72-76.

85. Anonymous. The diagnosis and management of sexually transmitted diseases in South Africa. 1991; Department of National Health and Population Development, Pretoria.

86. O'Farrell N, Windsor I, Becker P. HIV-1 infection among heterosexual attenders at a sexually transmitted diseases clinic in Durban. *S Afr Med J* 1991; 80:17-20.

87. Sischy A, Exposto F, Dangor Y, et al. Syphilis serology in patients with primary syphilis and non-treponemal sexually transmitted diseases in southern Africa. *Genitourin Med* 1991; 67:129-32.

88. Bogaerts J, Vuylsteke B, Martinez W, et al. Simple algorithms for the management of

genital ulcers in developing countries: an evaluation in a primary health care centre in Kigali, Rwanda. *Bull WHO* 1991, (in press); quoted in Vuylsteke B, Meheus A. The syndromic management of STD 1996; in, Dallabetta G, Laga M and Lamptey P (eds.) Control of Sexually Transmitted Diseases: A Handbook for planning and managing programmes. Family Health International and Institute of Tropical Medicine, Antwerp, Belgium. Currently in print.

89. Islam M, Piot P. Syndromic diagnosis of STDs. *Global Access to STD Diagnostics* 1993; 2:1-4.

90. Bogaerts J, Vuylsteke B, Martinez W, et al. Simple algorithms for the management of genital ulcers in developing countries: an evaluation in a primary health care centre in Kigali, Rwanda. *Bull WHO* 1991, (in press); quoted in Vuylsteke B, Meheus A. The syndromic management of STD 1996; in, Dallabetta G, Laga M and Lamptey P (eds.) Control of Sexually Transmitted Diseases: A Handbook for planning and managing programmes. Family Health International and Institute of Tropical Medicine, Antwerp, Belgium. Currently in print.

91. Pinto I, Ballard R, et al. The cost-effectiveness of alternative management strategies in the treatment of sexually transmitted diseases. Paper presented at *4th Joint Congress of the Sexually Transmitted Diseases and Infectious Diseases Societies of Southern Africa,* 1993; Durban.

92. Islam M, Piot P. Syndromic diagnosis of STDs. *Global Access to STD Diagnostics* 1993; 2:1-4.

93. Anonymous. The diagnosis and management of sexually transmitted diseases in South Africa. 1991; Department of National Health and Population Development, Pretoria.

94. Vuylsteke B, Meheus A. The syndromic management of STD,quoted in Vuylsteke B, Meheus A. The syndromic management of STD, in Dallabetta G, Laga M and Lamptey P (eds.) Control of Sexually Transmitted Diseases: A Handbook for planning and managing programmes. Family Health International and Institute of Tropical Medicine 1996; Antwerp, Belgium. Currently in print.

95. Vuylsteke B, Laga M, Alary M, et al. Clinical flow charts for the screening of womenfor gonococcal and chlamydial infection: evaluation of pregnant women and prostitutes in Zaire. *Clin Infect Dis* 1993; 17:82-88.

96. Braddick MR, Ndinya-Achola JO, Mirza NB, et al. Towards developing a diagnostic flow-chart for chlamydia trachomatus and neisseria gonorrhea cervicitis in pregnancy. *Genitourin Med* 1990; 66:62-65.

97. Jacobsen L, Westrom L. Objective diagnosis of acute PID: diagnostic and prognostic value of laparoscopy. *Am J Obstet Gynaecol* 1969; 105:1088-98.

98. Hager WD, Eschenmbach DA. Criteria for diagnosis and grading of salpingitis. *Obstet Gynaecol* 1983; 61:113-4.

99. Wright EC. Non-compliance: or, how many aunts has Matilda? *Lancet* 1993; 342 (8876): 909-13.

100. Homedes N, Ugalde A. Research on patient compliance in developing countries. *Bulletin of PAHO* 1994; 1:28.

101. Mann J. Heterosexual transmission of HIV: A global view a decade later. *Int J of STD & AIDS* 1993; 4:353-356.

102. Buve A, Laga M, Piot P. Sexually Transmitted Diseases: Where are we now? *Health Policy and Planning* 1993; 8(3): 277-81.

103. Thornton S, Catalan J. Preventing the sexual spread of HIV infection - What have we learned? *Int J of STD & AIDS* 1994; 4:311-6.

104. Anonym*ous*. Effective approaches to AIDS prevention: Report of a meeting. World Health Organisation 1994; WHO/GPA/IDS/93.1.

105. Wood K, Maforah F. Experiences of pregnant teenagers in Cape Town. *2nd Reproductive Health Priorities Conference of South Africa,* 1995; Medical Research Council: South Africa.

106. Flanagan D. Communication to change behaviour. *AIDS Captions* 1996; 3(2):17-20.

107. Anonym*ous*. Effective approaches to AIDS prevention: Report of a meeting. World Health Organisation 1994; WHO/GPA/IDS/93.1.

108. O'Reilly KR, Higgins DL. AIDS community demonstration projects for HIV prevention among hard-to-reach groups. *Pub Health Rep* 1991; 106:714-20.

109. Allen S, Serufilira A, Bogaerts J, et al. Confidential HIV testing and condom promotion in Africa: Impact on HIV and gonorrhea rates. *JAMA* 1992; 268:3338-43.

110. Saracco A, Musicco M, Nicolosi A, et al. Man to woman sexual transmission of HIV: Longitudinal study of 343 steady partners of infected men. *J Acquir Immun Defic Syndr* 1993; 6:497-502.

111. Ngugi EN, Plummer FA, Simonsen JN, et al. Prevention of HIV in Africa: Effectiveness

of condom promotion and health education among prostitutes. *Lancet* 1988; 2:887-90.

112. Hassig SE, Price J, Earle D, et al. A tale of two programmes - Social marketing in Zaire and Cameroon. *7th International AIDS Conference* 1988; Abstact W.D.4011: Florence, Italy.

113. Danielsson D. Gonorrhea and syphilis in Sweden - Past and present. *Scand J Inf Dis* 1990; 69:69-76.

114. Azuzu MC, Rotowa NA and Ajayi IO. The use of mail reminders in STD contact tracing in Ibadan, Nigeria. *East Afr Med J* 1990; 67(2):75-78.

115. McCoy D. Active STDs at rural community clinics in Kwazulu. Letter to *S Afr Med J* 1995; 85:57.

116. Schneider H. An assessment of services for the control of sexually tranmitted diseases in PWV Province, South Africa. Report written for the Centre for Health Policy and the Medical Research Council, South Africa, 1994.

117. Coetzee N, Mofokeng M, Bachmann M and Cooper D. *The case management practices and diagnostic spectrum of sexually transmitted diseases at a day hospital in a peri-urban township of Cape Town.* Report prepared by the Department of Community Health, University of Cape Town 1995.

118. Pascoe M. Personal communication, 1995. City of Harare Department of Infectious Disease, Zimbabwe.

119. Hanenburg RS, Rojanapithayakorn W, Kunasol P,et al. Impact of Thailand's HIV control programme as indicated by the decline of STDs. *Lancet* 1994; 344:243-5.

120. Karim SSA, Ziqubu-Page TT and Arendse R. Bridging the gap: Potential for a health care partnership between African traditional healers and biomedical personnel in South Africa. Medical Association of South Africa publication, South Africa, 1994.

121. Anonymous. Report on the consultation on AIDS and traditional medicine: Prospects for involving traditional health practitioners. World Health Organisation 1990; WHO/TRM/GPA/90.1.

122. Neuman AK, Lauro P. Ethnomedicine and biomedicine linking. *Soc Sci Med* 1982; 16:1817-24.

123. Green EC. Sexually transmitted disease, ethnomedicine and health policy in Africa. *Soc Sci Med* 1992; 35:121-130.

124. Ingstad B. The cultural construction of AIDS and its consequences for prevention in Botswana. *Med Anthropol Q* 1990; 4(1):28-40.

125. Green EC. Sexually transmitted disease, ethnomedicine and health policy in Africa. *Soc Sci Med* 1992; 35:121-130.

126. Masango ED, Rakolojane MJ. Sexually Transmitted Diseases Baseline Survey, 1987, Mbabane. Family Life Association of Swaziland, cited by Green EC. Sexually transmitted disease, ethnomedicine and health policy in Africa. *Soc Sci Med* 1992; 35:121-130.

127. Green EC. Sexually transmitted disease, ethnomedicine and health policy in Africa. *Soc Sci Med* 1992; 35:121-130.

128. Ingstad B. The cultural construction of AIDS and its consequences for prevention in

Botswana. *Med Anthropol Q* 1990; 4(1):28-40.

129. Schoepf BG. AIDS, sex and condoms: African healers and the reinvention of tradition in Zaire. *Med Anthropol* 1992; Vol 14:225-42.

130. Green EC, Jurg A, Dgedge A. Sexually transmitted diseases, AIDS and traditional healers in Mozambique. *Med Anthropol* 1992; 15:261-281.

131. Ngubane H. Body and mind in Zulu medicine 1977; New York: Academic Press.

132. Ngubane H. Aspects of clinical practice and traditional organisation of indigenous healers in South Africa. *Soc Sci Med* 1977; 15:361-5.

133. Green D, Pinkey-Atkinson VJ. Quality in health care. *S Afr Med J* 1977; 84:129-30.

134. McGlynn EA, Halfon N, Leibowitz A. Assessing the quality of care for children. *Arch Paediatr Adolesc Med* 1977; 149:359-68.

135. McGlynn EA, Halfon N, Leibowitz A. Assessing the quality of care for children. *Arch Paediatr Adolesc Med* 1977; 149:359-68.

136. Gilson L, Magomi M, Mkangaa E. The structural quality of Tanzanian primary health facilities. *Bull World Health Organ* 1995; 73(1):105-114.

137. Bryce J, Toole MJ, Waldman RJ et al. Assessing the quality of facility-based child survival services. *Health Policy and Planning* 1992; 7(2):155-63.

138. Anker M, Guidotti RJ, Orzeszyna S, et al. Rapid Evaluation Methods (REM) of health service performance: Methodological interventions. *Bull World Health Organ* 1992;

71(1):15-21.

139. Bryce J, Toole MJ, Waldman RJ et al. Assessing the quality of facility-based child survival services. *Health Policy and Planning* 1992; 7(2):155-63.

140. Saturno PJ. Towards evaluation of the quality of care in health centres. *World Health Forum* 1995; 16:145-150.

141. Maxwell RJ. Quality assessment in health. *BMJ* 1984; 288:1470-72.

142. Donabedian A. The quality of care: How can it be assessed? *JAMA* 1988; 260(12):1743-8.

143. Askew I, Tapsoba P, Ouedraogo Y, et al. Quality of care in Family Planning Programmes: A rapid assessment in Burkina Faso. *Health Policy and Planning* 1988; 8(1):19-32.

144. Mertens TE, Hayes RJ, Smith PG. Epidemiological merhods to study the interaction between HIV infection and other STDs. *AIDS* 1990; (4):57-65.

145. Bryce J, Vernon A, Brathwaite AR, et al. Quality of sexually transmitted disease services in Jamaica: Evaluation of a clinic-based approach. *Bull WHO* 1994; 72(2):239-47.

146. Irlam J, Knight S, Whittaker R. *Evaluation of the quality of STD management in Kwazulu-Natal clinics.* Reported in *AIDSBrief* (a newsletter of HIV/AIDS surveillance in Kwazulu-Natal) 1996; Issue Number 6.

147. Van der Veen FH, Ndoye I, Guindo S, et al. Management of STDs and cost of treatment in primary health care centres in Pikine, Senegal. *Int J of STDs and AIDS* 1994; 5:262-267.

148. Shekelle PG, Kosecoff J. *Evaluating the treatment of sexually transmitted diseases at an urban public hospital outpatient clinic. American J of Public Health* 1992; 82(1):115-7.

149. Matthews C, van Rensburg A, Schierhout G, et al. Missed opportunities for reducing the spread of HIV in patients with other STDs attending a Cape Town clinic. Unpublished report available from Matthews C, Department of Community Health, University of Cape Town.

150. McCoy D. Active STDs at rural community clinics in Kwazulu. Letter to *S Afr Med J* 1995; 85:57.

151. Department of Communuty Health, University of Cape Town. Final report on an intervention to improve the management and control of STDs within health services situated at the Site B health complex, Khayelitsha. June 1995.

152. MertensT, Carael M, Sato P et al. Prevention indicators for evaluating the progress of national AIDS programmes. *AIDS* 1994; 8:1359-1369.

153. Abdool Karim Q, Preston-Whyte E, Abdool Karim SS. Teenagers seeking condoms at family planning sevices. *S Afr Med J* 1992; 82:356-9.

154. Schneider H. An assessment of services for the control of sexually tranmitted diseases in PWV Province, South Africa. Report written for the Centre for Health Policy and the Medical Research Council, South Africa, 1994.

155. Anonymous. The diagnosis and management of sexually transmitted diseases in South Africa. 1991; Department of National Health and Population Development, Pretoria.

156. South African Family Practice Manual, November 1994. *Urogenital Issues.*

157. Corcoran GD, Ridgway GL. Antibiotic chemotherapy of bacterial sexually transmitted diseases in adults: A review. *Int J of STD & AIDS* 1994; 5:165-71.

158. Sexually Transmitted Diseases. *Medicine* 1993; Volumes 21:3 to 21:5.

159. Mertens TE, Hayes RJ, Smith PG. Epidemiological methods to study the interaction between HIV infection and other STDs. *AIDS* 1990; (4):57-65.

160. Van der Veen FH, Ndoye I, Guindo S, et al. Management of STDs and cost of treatment in primary health care centres in Pikine, Senegal. *Int J of STDs and AIDS* 1996; 5:262-267.

161. Schneider H. An assessment of services for the control of sexually tranmitted diseases in PWV Province, South Africa. Report written for the Centre for Health Policy and the Medical Research Council, South Africa, 1994.

162. Coetzee N, Mofokeng M, Bachmann M, Cooper D. The diagnostic spectrum of case management practices of STDs at Site B Community Health Centre in Khayelitsha, Cape Town. *Unpublished report* 1994; Department of Community Health, University of Cape Town.

163. Frame G, Ferrinho PLGM, Phakathi G. Patients with sexually transmited diseases at the Alexandra Health Centre and University Clinic. *S Afr Med J* 1991; 80:389-92.

164. Fransen L. Gaps in the control of sexual transmission of HIV/STDs among women. *7th International AIDS Conference*, 1991; Abstract M.D. 4231: Florence, Italy.

165. Matthews C, van Rensburg A, Schierhout G et al. Missed opportunities for reducing the

spread of HIV in patients with other STDs attending a Cape Town clinic. *Unpublished report* 1994; Medical Research Council and Cape Town City Council Health Department, South Africa.

166. Karim SSA, Ziqubu-Page TT and Arendse R. Bridging the gap: Potential for a health care partnership between African traditional healers and biomedical personnel in South Africa. Medical Association of South Africa publication, South Africa, 1994.

167. Anonymous. Report on the consultation of AIDS and traditional medicine: Prospects for involving traditional health practitioners. *Technical report* TRM/GPA/90.1, 1990; World Health Organisation.

168. McCoy D. Active STDs at rural community clinics in Kwazulu. Letter to *S Afr Med J* 1995; 85:57.

169. Bryce J, Vernon A, Brathwaite AR, et al. Quality of sexually transmitted disease services in Jamaica: Evaluation of a clinic-based approach. *Bull World Health Organ* 1988; 72(2):239-47.

170. Irlam J, Knight S, Whittaker R. *Evaluation of the quality of STD management in Kwazulu-Natal clinics.* Reported in *AIDSBrief* (a newsletter of HIV/AIDS surveillance in Kwazulu-Natal) 1996; Issue Number 6.

171. Mann J. Heterosexual transmission of HIV: A global view a decade later. *Int J of STD & AIDS* 1993; 4:353-356.

172. Anonymous. Health care in Kwazulu-Natal. Health Systems Trust and Department of Health publication, South Africa, 1996.

173. Schneider H. An assessment of services for the control of sexually tranmitted diseases in PWV Province, South Africa. Report written for the Centre for Health Policy and the Medical Research Council, South Africa, 1994.

174. Coetzee and others 1995

175. Ballard RC, Ye H, Coetzee DJ, Dangor Y and Fehler HG. 1995. *Justification for the Syndromic Management of Genital Ulcer Disease in Southern Africa.* 5th Joint Congress of the Sexually Transmitted Diseases and Infectious Diseases Societies of Southern Africa, Durban.

176. Bevy A, Laga M and Piot P. 1993. *Where are we now? Sexually Transmitted Diseases.* Health Policy and Planning 8(3): 277-281.

177. Cronje HS, Joubert G, Muir A, Chapman RD, Divall P, Bam RH. 1994. *Prevalence of vaginitis, syphilis and HIV infection in women in the orange Free State.* South African Medical Journal 84: 602-5.

178. Crucitti T, Folgosa E, Mondlane J, de Jesus M and Bastos. 1995. *Syphilis Screening for Pregnant Women Attending Pre-natal Consultation.* 5th Joint Congress of the Sexually Transmitted Diseases and Infectious Diseases Societies of Southern Africa, Durban.

179. Decosas J. 1995. *Time to stop culturing silence.* Lancet 345:270-1.

180.

181. Dhai A. 1992. *Syphilis and HIV Infection Amongst Gynaecology Outpatient Deparment*

Attenders at King Edward Hospital, Durban. Presentation at the Medical Research Council/University of Natal AIDS Research Forum.

182. Fehler HG, Dangor Y, Radebe F, Ye H, Ntsekhe P and Khumalo S. 1995. *Aetiology and Risk Factor Profiles Associated with Vaginal and Cervical Infections in Maseru, Lesotho.* 5th Joint Congress of the Sexually Transmitted Diseases and Infectious Diseases Societies of Southern Africa, Durban.

183. Guiness LF, Sibandze s, McGrath E and Cornelis AL. 1988. *Influence of antenatal screening on perinatal mortality caused by syphilis in Swaziland.* Genitourinary Medicine 64:294-97.

184. Hook EW and Handsfield HH. 1990. *Gonococcal Infections in the Adult.* In Holmes KK et al (eds), *Sexually Transmitted Diseases*, 2nd edition, McGraw-Hill, New York.

185. Hooper RR, Reynolds GH, Jones OG, and Holmes KK. 1978. *Cohort Study of Venereal Diseases: The Risk of Gonorrhea Transmission.* American Journal of Epidemiology 108:136-44.

186. Hoosen AA, Quinlan DJ, Moodley J, Adhikari M, Taylor L. *Sy[hilis in the "unbooked" pregant woman.* South African Medical Journal 76:251-4.

187. Lebughe I, Nzila N and Edidi B. *HIV and STD Prevalence and Risk Factors Among Pregnant Women Attending Primarey Health Care Centres in Kinshasa, Zaire.* [Abstract] in: 9th International Conference on AIDS/4th STD World Congress, Volume 1, Berlin, Germany, June 6-11.

188. Leclerc A, Frost E, Collet M, Goeman J and Bedjabaga L. *Urogenital Chlamydia Trachomatis in Gabon: An Unrecognised Epidemic.* Genitourin Med 64:308-11.

189. Mason PR, Katzenstein DA, Chimbira THK at al. 1989. *Microbial Flora of the Lower genital Tract of Women in Labour at Harare Maternity Hospital.* Central African Journal of Medicine 35(3):337-344.

190. Meheus A. 1990. *Women's Health" Importance of Reproductive Tract Infections, Pelvic Inflammatory Disease and Cervical Cancer.* In Germain a, Holmes KK,Piot P and Wasserheit JN, eds., *Reproductive Tract Infections: Global Impact and Priorities for Women's Reproductive Health.* New York, Plenum Press.

191. Ntsaluba A, Hoosen AA, Moodley C, Moodley J and Sturm AW. 1995. *Lower Genital Tract Infections in Patients Udergoing Hysterosalpingography.* 5th Joint Congress of the Sexually Transmitted Diseases and Infectious Diseases Societies of Southern Africa, Durban.

192. Ntsekhe P, Ye H, Dangor Y, Fehler HG and Ballard RC. 1995. *The Aetiology of Acute Urethritis and Genital Ulcer Disease in Maseru, Lesotho.* 5th Joint Congress of the Sexually Transmitted Diseases and Infectious Diseases Societies of Southern Africa, Durban.

193. Nyamwaya D. 1992. *African Indigenous Medicine - An Anthropological Perspective for Policy Makers and Primary Health Care Managers.* Published by African Medical Research Foundation, Nairobi.

194. O'Farrell N, Hoosen AA, Kharsany ABM, van der Ende J. 1989. *Sexually Transmitted Pathogens in Pregnant Women in a Rural South African Community.* Genitourin Med 65:276-80.

195. Osegbe dn and Amaku eo. 1981. *Gonococcal strictures in young patients.* Urology 18(1):37-41.

196. Oxman AD and others. 1994. *Partner notification for sexually transmitted diseases: an over view of the evidence.* Can J Public Heath 85(suppl 1):41-47.

197. Population Reports. 1993. *Controlling Sexually Transmitted Diseases.* Popuklation Reports Series l, Number 9.

198. Ratnam AV, Din SN, Hira SK, Bhat GJ, Wacha DS, Rukmini A and Mulenga RC. 1982. *Syphilis in pregnant women in Zambia.* British Journal of Venereal Diseases 58:355-58.

199. Sackett DL and Haynes RB. 1976. *Compliance with Therapeutic Regimes.* The Johns Hopkins University Press, Baltimore, United States.

200. Sajiwandani J and Baboo K. 1987. *Sexually Transmitted Diseases in Zambia.* J.R.Soc Hlth 107:183-6, cited in Green, 1992.

201. Sparling PF. 1990. *Natural History of Syphilis.* In Holmes KK, Mardh PA, Sparling PF and Wiesner PJ, eds., *Sexually Transmitted Dieases.* McGraw-Hill, New York.

202. Walters JK. 1994. *Behavioual Science in the AIDS Epidemic.* Lancet 344:1312-3.

203. Wasserheit JN. 1989. *The Significance and Scope of Reproductive Tract Infections Among Third World Women.* Int J of Obs and Gyn (Suppl 3):145-168.

Hunt CW. Migrant labour and sexually transmitted disease. *J Health Soc Behav* 1989; 30(4):353-73.

Meheus A, van Dyck L, Ursi JP et al. Aetiology of genital ulcerations in Swaziland. *Sex Transm Dis* 1992; 10:33-35.

Jacobsen L, Westrom L. Objective diagnosis of acute PID: diagnostic and prognostic value of laparoscopy. *Am J Obstet Gynaecol* 1969; 105:1088-98.