

# Epi Pie Literature Review – South Africa

## 1 Overview of Epidemic's Progression

South Africa is home to almost half of all HIV-positive people in the nine southern African countries most affected by the pandemic. In 2001 it was estimated that nearly 4.7 million people in South Africa were living with HIV/AIDS. USAID estimates that by 2005 the population will be 16% lower than it would have been in the absence of AIDS; HIV prevalence among adults will be 25% by 2010; and by 2015 population losses due to AIDS related deaths will be 4.4 million. Almost half of all HIV infected adults became infected before they turned 25.<sup>1</sup>

The HIV pandemic disproportionately affects young children, causing high morbidity and mortality among infected children and orphaning many others. In 1998, South Africa had approximately 100,000 AIDS orphans and it is expected that an additional 1.6 million children will have been orphaned by AIDS by 2008.<sup>2</sup> Approximately 30-40 percent of infants born to HIV-positive mothers will become infected, and most will develop AIDS and die within two years. A survey conducted in rural South Africa found that prevalence in children born to infected mothers increased from 14% in infants less than six weeks to 24% in 3-6 month old infants.<sup>3</sup> The 2000 South Africa Department of Health Antenatal Survey found that 24.5% of pregnant women were HIV positive. It is estimated that by 2010 AIDS will have increased the infant mortality rate to 40 percent.

### 1.1 Social Factors and Their Role in Transmission.

It appears that the main routes for infection in South Africa are unprotected sex and mother to child transmission. None of the literature reviewed discussed intravenous drug use as a major form of transmission. There are several social factors which can heavily influence the transmission of HIV through their influence over individual's behaviors. Various surveys conducted in South Africa have consistently shown that young, African women, aged 15-24 are at the greatest risk of becoming infected through unprotected sex. With more than half of HIV infections occurring in women, the likelihood is that vertical transmissions will continue to increase. Social factors which help to contribute to the practice of unsafe sexual behavior include:

- The legacy of apartheid – in particular its role in creating large, poverty stricken, urban informal settlements, specifically through the government's direct role in forced migration and relocation of the African population, and somewhat more indirectly through high unemployment rates for black South Africans. For many, apartheid resulted in the disruption of family and community life and the corresponding inherent support networks.
- Poverty – while research has suggested that there is no increased risk for HIV associated with poverty, extreme financial conditions can manifest into unsafe

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<sup>1</sup> Love Life – p8

<sup>2</sup> South Africa and HIV/AIDS – USAID and FHI – p3

<sup>3</sup> Collins et al – p 389

- behavior. These can include low risk self-perception compounded by a sense of despair, engaging in commercial or “survival” sex, and living on the streets.
- The Government of South Africa was only recently ordered by the courts to provide a comprehensive national “roll-out” plan for the prevention of mother to child transmission. Previously, the government had claimed that interventions designed to provide antiretroviral treatments for pregnant women were not feasible because of “cost, toxicity, drug resistance, breastfeeding, and the capacity of health services to implement programs.”<sup>4</sup>
  - Transportation infrastructure and high mobility rates – South Africa has a well developed transportation infrastructure which allows for the rapid movement of people from one community to the other. In addition, South Africa has a high number of migrant workers, many of whom work in the gold mining industry, factories and the transportation sector.
  - Women have a low status both within society in general and within personal relationships; in addition violence against women is prevalent and accepted. According to DFID, South Africa has the highest level of reported rape in the world.
  - Social norms accept and encourage men to have high numbers of sexual partners, and discourage the use of condoms.

## 2 Analysis of Incidence

The epidemic in South Africa is classified as being generalized, as of 2000 the prevalence rate among surveyed women attending antenatal clinics was 24.5%. The first two reported cases of AIDS in 1982 were male homosexuals. Until 1987, HIV-1 was diagnosed almost exclusively among men. Surveys of HIV-positive homosexual men conducted in 1983 indicated that many of the men reported having sexual contacts while traveling abroad, mainly to Europe and North America. During the late 1980s infection patterns had shifted to indicate a predominately heterosexual epidemic. By 1988, an increasing number of women were diagnosed as HIV-positive and by 1992 the number of new cases in women nearly equaled those in men.<sup>5</sup> Epidemiological evidence indicates that the current heterosexual epidemic is in fact a separate and recent epidemic, with the first female cases being reported in the mid-1980s. HIV-positive women surveyed at the time indicated that they had had sexual contacts while traveling abroad to countries in the region.<sup>6</sup>

It is estimated that 1,700 people are infected with HIV every day in South Africa. From the literature reviewed, it appears that most new infections are occurring in the following groups: youth, especially young women, migrant workers – including truck drivers, and commercial sex workers.

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<sup>4</sup> Abdool Karim et al., *The Lancet* – p.992

<sup>5</sup> Van Harmelen et al, p82

<sup>6</sup> Van Harmelen et al, p86

## 2.1 Youth

According to the 2000 South Africa Department of Health (DOH) Antenatal Survey, women in their twenties showed the largest increase of prevalence between 1999 and 2000, with an increase of 3.5% for women in the 20-24 year old age group and 4.2% for women aged 25-29 years. Over the span of several DOH surveys “women in their twenties have consistently shown the highest level of HIV infection, making up on average, not less than half of the adult HIV positive population.”<sup>7</sup> In 1997 incidence among women aged 20-24 was estimated at 16%.<sup>8</sup> While prevalence among teenagers has been declining over the past three years, the spike in the 20-29 age group may indicate that this behavior is not maintained as teenagers become adults and that infection is being delayed rather than avoided.<sup>9</sup>

The Human Science Research Council (HSRC) was commissioned to do a national study which analyzed data by gender, age, geographic locale and race. Table 1 presents the prevalence data for children and youth. Overall for youth, prevalence is highest for young women, Africans and those living in informal urban areas.

**Table 1 – HIV Prevalence for Children and Youth – HSRC 2002**

<b>Age</b>	<b>Sub-Group</b>	<b>HIV+ %</b>
Children 2-14 – Total		5.6
Youth 15-24 – Total		9.3
	Female	12.0
	Male	6.1
	African	10.2
	Colored	6.4
	White	3.2
	Indian	0.3
	Urban Formal	9.3
	Urban Informal	20.2
	Tribal	7.0
	Farms	8.6

**Note:** these are the estimates that fall between the 95% confidence intervals

USAID and FHI estimated that two-thirds of all new infections occur in 15-20 year olds – 45% of the population of South Africa is under 20 years of age. The Love Life report predicts that nearly 25% of all new infections between 1995 and 2010 will occur in young women aged 15-19, with young men in that same age category predicted to account for just over 5% of all new infections. Women and men aged 20-24 are expected to account for approximately 15% of all new infections. The third most affected age group consists of women aged 25-29, and they are expected to account for nearly 10% of all new infections – men in that same age category are expected to account for 5%. In sum, youth between the ages of 15 and 24 could comprise 61% of all new infections.

<sup>7</sup> National HIV and Syphilis Sero-Prevalence Survey (DOH), 2000, p.8

<sup>8</sup> Wilkinson et al., p405

<sup>9</sup> DOH - 2000, p.9

The total population of South Africa is estimated to be 41.4 million, and 53% (21.9 million) are under the age of 25.

## 2.2 Migrant workers

There are an estimated 2.5 million legal, and many illegal, migrants in South Africa.<sup>10</sup> External migrants, those from other countries, are attracted to South Africa by relatively higher wages. Many of the migrant workers are employed by the mining and energy industry, with the gold mining industry alone employing approximately 300,000 men. Migration is considered a risk factor for HIV and other STIs based on the assumption that migrants are more likely to have additional sexual partners. Table 2 presents the prevalence data among migrant and non-migrants and their rural partners.

Table 2 - Prevalence Levels for Migrant and Non-Migrants and Their Partners – Lurie et al.

Group	HIV+		
	22-34	35-49	50-66
<b>Men: Age</b>			
Migrant men	33.8%	21.2%	17.7%
Non-migrant men	22.2%	13.8%	5.6%
<b>Women: Age</b>	<b>18-34</b>	<b>35-49</b>	<b>50-66</b>
Partners of migrants	25.7%	15.1%	20%
Partners of non-migrants	34.5	7.6	14.3

Studies have suggested that the incidence of HIV infection in South Africa is high and rapidly progressing in part due to the combined effect of high STI prevalence and substantial population movements.<sup>11</sup> The predominant form of migration in southern Africa is “circular” or “oscillating” migration, in which men leave their mostly rural homes to work in urban areas, returning home periodically as distance and time allow.<sup>12</sup> This circular pattern of migration can put people at risk of infection at in between and at both ends of the migration route, including the home based partners of the migrant workers. A study conducted in the gold mining town of Carletonville and the industrial coastal town of Richards Bay estimated prevalence among migrants and their partners to be 24.0% compared to 15.0% for non-migrants and their partners.

Table 3 displays the HIV prevalence results of a survey conducted by Wilkinson et al. in a township near by Carletonville (note that miners were included in this survey). It is estimated that in the area around Carletonville, the percentage of sexually active young women aged 15-19 increased significantly between 1994 and 1999 – from 56.9% to 67.5%. The high prevalence levels of women, even in the younger age categories, as compared to men are noteworthy. Inferences from the numbers presented are that women in the township are having sexual relations with men who are significantly older and that many of these relationships are with the miners – the authors of the study also suspect that the women surveyed were underreporting the number of sexual relations they had with the miners.

<sup>10</sup> Lurie et al. p149

<sup>11</sup> Wilkinson et al. p408

<sup>12</sup> Lurie et al. p149

**Table 3 - HIV Prevalence in a Township Near Carletonville**

<b>Category</b>	<b>Men – HIV+ %</b>	<b>Women – HIV+ %</b>
14-16 years	2.0	11.6
17-18 years	2.8	25.2
19-21 years	7.9	42.9
22-24 years	32.9	64.7

The study conducted by Lurie et al. determined that the chances of being infected with HIV were 2.4 times greater than for a non-migrant worker. Further research needs to be conducted on the partners of migrant workers as Lurie et al. were surprised by their prevalence findings. Lurie concludes that the disproportionate odds for a migrant worker being infected highlight the importance of migration in the spread of the epidemic, especially as the observed prevalence levels are quite high.

### **2.3 Truckers**

Truck drivers are often considered a high risk group as they can act as a bridge population with the potential to transmit HIV along their trucking routes on the highways as well as within their own communities back home. In turn, sex workers are common in areas frequented by truck drivers which presents an additional opportunity for a web-like spread of HIV into the surrounding communities. Research on truck drivers in South Africa is not widely available. One study conducted by Ramjee and Gouws determined that the prevalence rate for the surveyed truck drivers was 56%, prostitutes in the survey truck stops also had a prevalence rate of 56%. As of October 2002, it was estimated by the National Traffic Information System that there were more than 250,000 trucks on the South African roads.

### **2.4 Sex Workers**

The 2000 DOH antenatal survey determined that HIV prevalence in KwaZulu-Natal was 36%, however, by 1998 prevalence among sex workers in the same region was already over 50%.<sup>13</sup> 56% of the sex workers interviewed in the truck driver survey were HIV positive. A three-year survey (beginning in 1998) of sex workers conducted in a mining town near Johannesburg found that 68% of the sex workers were HIV positive. Sex work is illegal in South Africa and as such figures on the size of the commercial sex industry are not available. Commercial sex workers are considered key transmitter groups due to the sheer number of sexual partners they have. In addition, sex workers will often travel to new sites, partially due to client demand for new faces – this migration of sex workers provides another opportunity for increased transmission.

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<sup>13</sup> Connolly et al. p721

### **3 Behavioral and Social Analysis**

The previous section provided a general overview of the results from the major prevalence surveys conducted in South Africa. This section discusses behaviors of some of the specific population groups that were included in the overall studies.

#### **3.1 Youth**

The 2000 DOH survey indicates that HIV prevalence levels have declined slightly in the under 20-age group, however the largest percentage increase is seen in the 20-24 and 25-29 age group. The HSRC study found that the median age of first sex for respondents 35-44 years old was 18, 17 for 25-34 years, and 16 for sexually active youth aged 15-24 years. This indicates that currently, younger age groups are more likely to begin having sex at a younger age than in the past.<sup>14</sup> 25.0% of youth aged 15-17 years reported being sexually active in the HSRC survey.

##### **3.1.1 Partnerships and Condom Use**

23.0% of males and 8.8% of females in the 15-24 age group reported having more than one sexual partner in the past year and seven out of ten sexually active youth reported having sex four or less times per month.<sup>15</sup> Among women aged 15-19 years, 70.3% reported having no sexual partner in the past twelve months indicating a shift towards “secondary abstinence.”<sup>16</sup> The majority of those who had more than one partner in the past year were youth from urban informal areas and they were found to have high HIV prevalence levels.<sup>17</sup> A literature review conducted by Eaton et al. determined that between 10-30% of sexually active youth have concurrent partners with men being more likely than women to fall in this category.<sup>18</sup> Research among African youth has determined that young men and women experience peer pressure to become sexually active – for boys the pressure is to prove their manliness and have many partners, and for girls the pressure is to become experienced so as not to be considered a child.<sup>19</sup>

The HSRC study showed that 8% of women between 15 and 24 have partners who are between 11 to 25 years older than them and 22.4% of women overall have partners who are between six and ten years older.<sup>20</sup> Laga et al. conclude that these types of partnerships are becoming more common as men who become aware of the dangers of AIDS are seeking out younger partners in the belief that they are not infected. These older men are less likely to use condoms with their younger partners and the uneven balance of power within these relationships makes it difficult for young women to negotiate condom use.<sup>21</sup> In addition, many young females enter into relationships with older men because they receive monetary and other gifts – from the older man’s

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<sup>14</sup> HSRC 2002 – p.69

<sup>15</sup> HSRC 2002 – p.71

<sup>16</sup> HSRC 2002 – p. 79

<sup>17</sup> HSRC 2002 – p. 78

<sup>18</sup> Eaton et al. p.151

<sup>19</sup> Eaton et al. p160

<sup>20</sup> HSRC 2002 – p. 58

<sup>21</sup> Laga et al. p933

perspective, they are already making a financial investment into the relationship and wish to avoid the extra expense of condoms.<sup>22 23</sup> Studies have shown that young women who have sexual partners that are older than themselves have a 1.04 increased risk of HIV infection with every year of age difference. For example, if a man is 20 years older than his partner, the increased risk for the woman would be  $1.04^{20} = 2.191$  or a 319% increase of risk. These risks are higher for young women mainly because their older partners have had more sexual partners during their lifetimes, thus the greater likelihood of being infected, are more likely to have concurrent partners, and are less likely to use a condom, mainly because they consider the younger women to be “AIDS free.”<sup>24</sup>

The HSRC survey found that condom use among youth was significantly higher than for adults, with 57.1% of males and 46.1% of females reporting using a condom during their last sexual intercourse. A 1999 DOH survey found that 35% of teenagers have been pregnant or have a child and that 21% of the women aged 15-19 were HIV positive.<sup>25</sup> Eaton et al. concluded that a maximum of 55% and likely less than 20% of youth use condoms during each sexual intercourse. From their literature review, Eaton et al. also estimated that somewhere between 50-60% of youth do not use condoms at all.

### 3.1.2 Knowledge, Perceived Risks, Costs and Benefits

During the 1990's over 90% of young South Africans reported knowing that AIDS is a fatal, sexually transmitted disease, however less than 50% understood how HIV and AIDS are related, indicating a serious gap in knowledge.<sup>26</sup> A study conducted in 1992 revealed that while 88% of sexually active youth knew that condoms could protect against HIV infection, none actually used them.<sup>27</sup>

A national survey conducted among teenagers indicated that 70% are concerned about the risk of infection. 75% of sexually *inactive* teenage girls indicated that they would use a condom during sex once they became active, however only 55% of sexually *active* teenage boys and girls said they always use a condom during sex. 82% of sexually active teenagers reported having only one partner. However, the high prevalence levels amongst teenagers suggest that fidelity is not being practiced as truly as reported. It should be noted that these figures differed from the 1998 DHS where the rate of condom use at last sex with a marital partner was reported to be 19% and 21% with a non-marital partner.<sup>28</sup>

Eaton et al. determined that South African youth had low personal perceptions of risk, estimating that less than one half of youth perceived themselves to be at any risk during the 1990s. A 1995 study reviewed by Eaton et al. of outpatients at an STD clinic found

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<sup>22</sup> Jewkes et al. p735

<sup>23</sup> Gregson, p1900

<sup>24</sup> Gregson, p1900

<sup>25</sup> Jewkes et al. p733

<sup>26</sup> Eaton et al. p. 151

<sup>27</sup> Eaton et al. p. 157

<sup>28</sup> DOH, 2000 - p.11

that fewer than 40% felt any risk from HIV and only 9% perceived a serious risk to themselves. Interviews with African youth showed that many of them felt resigned to a life of hardship and illness, a sense of fatalism, which contributes to unsafe sexual behavior.<sup>29</sup> Indian youth reported feeling less at risk because HIV/AIDS was perceived as being a disease of “poor blacks” or “white homosexuals” and thus excluded them. White youth felt that they were immune to HIV/AIDS as it was seen as a disease affecting only the poor and uneducated.<sup>30</sup> This type of behavior has been referred to as a “paradoxical triad of adequate knowledge of HIV/AIDS related issues, nonetheless, continued risk behavior and low self-perceived risk.”<sup>31</sup>

Youth interviewed in several surveys also indicated that preventative behaviors such as abstinence and condom use had negative features. Many young males believed that abstinence and suppression of sexual desire would lead to poor health; in addition abstinence prevents the demonstration of fertility for men and love and fertility for women. It should be noted however that these are more traditional beliefs that are not dominant in more modern, urban settings.<sup>32</sup> For those sexually active youth who want to prevent pregnancy, hormonal contraceptives were perceived as being more reliable than condoms. The most often cited disadvantage of condom use was loss of pleasure and the preference for sex to be “skin on skin.” “Further disadvantages of condoms cited by the youth are that too many condoms are required for many rounds of sex; fear of condoms breaking or slipping; and awkwardness in purchasing condoms.”<sup>33</sup> Since both males and females reported believing that condoms are associated with promiscuity, casual encounters, STDs and AIDS, the notion of condom use could also suggest that one had an STD or that they don’t trust their partner.<sup>34</sup>

### **3.1.3 Male Dominated Relationships and Violence**

South African culture is male dominated and in this context violence against women is often tolerated and accepted. This threat of violence and fear of rejection often makes it difficult for the female to successfully negotiate condom use with her partner. In 1998, the daily number of reported rapes was estimated to be 135. A 1996 survey reviewed by Eaton et al. revealed that only one-third of adolescent boys believed that their girlfriends had the right to refuse sex; in addition they believed that violent and coercive behavior was a sign of passion.<sup>35</sup> A study conducted in Cape Town revealed that 43.6% of the participants admitted to sexually and/or physically abusing their partners during the past ten years.<sup>36</sup> Several studies have also shown that men believe they have a right to multiple sexual partners – coupled with the threat of violence; young women in these relationships are at very high risk. A survey of pregnant teenagers found that they were

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<sup>29</sup> Frizelle and King p.2

<sup>30</sup> Frizelle and King p.3

<sup>31</sup> Hartung p 830

<sup>32</sup> Eaton et al. p158

<sup>33</sup> Eaton et al. p158

<sup>34</sup> Eaton et al. p159

<sup>35</sup> Eaton et al. p161

<sup>36</sup> Wojcicki – p1

more likely to have experienced forced sex, were beaten more often and were less likely to confront their partners about other partners.<sup>37</sup>

The risk of violence is especially high for homeless youth. Many youth living on the streets turn to prostitution to earn money and their clients usually want unprotected sex. Sexual abuse and rape are serious and pervasive threats for both boys and girls. In addition, substance abuse for this group is high.<sup>38</sup> Combined, these elements place these street youth at high risk for infection.

## **3.2 Migrants**

A study conducted by Lurie et al. in the Hlabisa District of rural KwaZulu-Natal found that 62% of adult men spent the majority of nights away from their homes. Studies have shown that many of these men have “town families” or have sex with commercial sex workers while away. An adequate transportation infrastructure allows for frequent visits home to rural areas.<sup>39</sup>

### **3.2.1 Partnerships and Condom Use**

Studies have shown that migrant men tend to have multiple partners while away from home and that condom use with all their partners is low. Lurie et al. found that 21.8% of migrant workers had two regular partners and 5.2% had more than three regular partners. 10.9% of the workers had ever used a condom with their regular partner. 11.8% of the migrant workers surveyed indicated that they had two or more casual partners. 21.4% of the workers had ever used a condom with a casual partner, and 6.5% had ever used one with their spouse. In addition, 17.5% of the workers and 43.1% of their spouses had experience STD symptoms in the four months before the survey.

Migrant men under 35 years were more likely to have casual partners, to have ever used a condom and had the highest prevalence levels. This indicates men who had ever used a condom were at greater risk, but those men were also most likely to have had more casual partners.<sup>40</sup> The risk for HIV infection was fivefold for women with more than one lifetime partner, which suggests that they are more likely to be infected by someone other than their regular partner.<sup>41</sup> The authors of this study plan to undertake a closer review of the sexual networking behaviors of migrant workers and their rural partners. The prevalence data for rural women is striking in comparison with the results of the HSRC study that indicated that people living in rural areas were at lesser risk of HIV, but other studies have noted that prevalence levels in rural areas rose with proximity to larger paved roads.<sup>42</sup> In addition, studies have shown that while the migrant worker is away, women left behind in rural areas are likely to engage in high-risk behavior.<sup>43</sup>

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<sup>37</sup> Jewkes et al. p733

<sup>38</sup> Eaton et al. p160

<sup>39</sup> Wilkinson et al. p408

<sup>40</sup> Lurie et al. p153

<sup>41</sup> Lurie et al. p155

<sup>42</sup> Wilkinson et al. p407

<sup>43</sup> Ramjee and Gouws p48

The study conducted by Auvert et al. determined that for those people in the Carletonville area who had at least one current *casual* relationship, 28.3% of men and 13.7% of women had more than one current partner. The casual partners of women were more likely to be married men, and the casual partners of women living in squatter settlements were most likely to be miners. There was a marked increase in HIV prevalence by number of lifetime partners for women. A low proportion of young women living in the township reported ever having had a sexual relationship with a miner, indicating that the high HIV prevalence levels were not solely sustained by mixing with the miners.<sup>44</sup>

Condom use in this area was low. 41% of men and 42.5% of women surveyed reported never having used a condom. Condoms were rarely or never used in 68.8% of the relationships reported by men and 75.6% of the relationships reported by women.<sup>45</sup>

The information gathered focused on internal migration. Additional research is needed to assess the impact of international migration, as noted before many workers are drawn to South Africa because of relatively high wages. Migrant workers from other countries often face different challenges – in some instances they are not allowed to use the services of public health clinics, workers who cannot speak the local language may have a hard time finding care, and many foreign workers suffer from discrimination and stigma as they are perceived as being more likely to be infected.

### **3.3 Truck Drivers**

The average workday is 16 hours for a South African trucker – truckers often complain of monotony, exhaustion and loneliness. In many cases, it is cheaper for a truck driver to spend the night with a sex worker rather than pay for a hotel – if one is available. Many truckers in South Africa feel that their companies encourage them to work long hours without rest and treat the employees inhumanely and unfairly. The truckers claim that they look for sexual partners along the road as a way to relieve fatigue and stress.<sup>46</sup>

Ramjee and Gouws undertook a study to determine the prevalence rates and risk behaviors of truck drivers visiting commercial sex workers at truck stops. The authors acknowledged that their sample was biased as they only collected data on those drivers who engaged in commercial sex and thus is not an accurate assessment of all truck drivers. The mean age of the truck drivers was 37 and most had been employed for an average of 8.4 years. All of the men traveled to three or more provinces and 65% traveled to neighboring countries. The overall HIV prevalence among the truck drivers was 56%. The prevalence level for the sex workers at the survey truck stops was also 56%.

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<sup>44</sup> Auvert et al. p895

<sup>45</sup> Auvert et al. p889

<sup>46</sup> Synergy Project – p25

### **3.3.1 Partnerships and Condom Use**

Surveys of truck drivers in South Africa indicate that condom use is very low, regardless of the type of partner, and this is illustrated by the high levels of self-reported STDs. This is particularly worrisome as many truck drivers indicate having frequent sex with sex workers, placing their regular partners at a higher risk of infection. 29% of the drivers said that they never used condoms with sex workers and 47% indicated that they always used condoms with sex workers. The truck drivers were on average 12 years older than the sex workers that they visited. 77% of the drivers had wives or steady girlfriends and 13% reported ever using condoms with those partners. Many of the truck drivers consider their primary partner to be low risk. 34% of the truck drivers indicated that they always stopped for sex and 40% had sex with sex workers in neighboring countries. 42% of the drivers said that they engaged in anal sex, and only 23% of these men reported using condoms during anal sex. 66% reported an STI in the six months prior to the survey and 83% had sought treatment.<sup>47</sup>

Truck drivers do not solely frequent sex workers while on the road – increasingly there has been a trend for truck drivers to partner with young women in the towns that they pass through as they are perceived as being “safer” partners. Condom use within these relationships is often even lower than with commercial sex workers due to the lower level of perceived risk. This may partly account for increasing prevalence rates in rural women, especially those who live near paved roads.

### **3.3.2 Wider Implications**

The sexual contacts made by truck drivers may have wider implications for the communities to which they travel – both urban and rural. High prevalence levels combined with low condom use and complex patterns of travel and sexual mixing create a conducive environment for the spread of HIV and other STIs.<sup>48</sup> Recall that only 13% of the truck drivers used a condom during their last sexual act.

## **3.4 Sex Workers**

The South African mining industry employs over 300,000 men who are mostly migrant workers living in single sex hostels. A thriving commercial sex industry has sprung up around these areas with impoverished women living in settlements near the mines. Many sex workers live with landlords who sell alcohol and provide free lodging to the sex workers who help attract clients to their liquor business.<sup>49</sup> An STI prevalence study conducted by Connolly et al. determined that the mean age of sex workers in their sample was 27.9 years and the median duration of sex work was 30 months.

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<sup>47</sup> Ramjee and Gouws – p45

<sup>48</sup> Ramjee and Gouws – p47

<sup>49</sup> Campbell and Mzaidume p.2

### **3.4.1 Partnerships and Condom Use**

Based on high levels of HIV prevalence and STI infection it appears that condom use is low among sex workers. This corresponds with the results from the truck driver survey as well. The median number of clients per week was estimated to be 20. A separate study of sex workers in truck stops found that the women had an average of 17 clients a week, with three overnight clients. In addition, most of the sex workers had one to three regular clients as well as non-commercial partners, such as husbands or boyfriends. The baseline results for the STI survey found that 30% of the women reported using condoms more than 50% of the time. It should be noted that in this study conducted by Connolly et al. the sample was HIV positive sex workers. Sex workers are often unwilling, or unable, to give up commercial sex work or insist on condom use despite being HIV positive, mainly due to their dependence on the derived income.

Various barriers to condom use were discussed in the literature reviewed, but access to condoms was not mentioned as one of them. Many of the women are living in extreme poverty, and in the context of the male dominated society, particularly within the mining community, they felt powerless to insist that their clients use condoms. This sense of powerlessness was exacerbated by the fact that fierce competition for clients exists among the sex workers, so if one woman insisted on using condoms, her reluctant client would simply go to a different sex worker. In addition, many clients will pay less for sex with a condom. Despite the risk of infection, this competition for clients prevented the sex workers from presenting a unified front for insisting on condom use.<sup>50</sup> Some sex workers did cite using condoms, however they made it clear that this was more common with new customers rather than with repeat customers.<sup>51</sup>

Many of the sex workers also had a deep sense of fatalism, despair and self-deprecation. This is similar to the results of interviews with African youth and such attitudes can lead to risky sexual behavior. In addition, men working in the mining areas also face great risks, with a miner having a one in twenty chance of being killed in a work-related accident during a twenty-year period. Coping mechanisms for the miners often included the adoption of overtly masculine identities, which included substance abuse and sex with unlimited partners. In this context of abundant risk from all sides, many of the miners chose not to use condoms with the sex workers.<sup>52</sup>

### **3.4.2 Male Dominated Relationships and Violence**

As discussed in the section on youth, South Africa can be characterized as a male dominated society. In the transactional relationships discussed above, it appears that the primary reason for non-condom use is unwillingness of male clients, who by nature of the relationship are in a dominant position.

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<sup>50</sup> Campbell and Mzaidume p.3

<sup>51</sup> Campbell and Mzaidume p.5

<sup>52</sup> Campbell and Mzaidume p.2

Sex workers and those who exchange sex for money or gifts, are at a high risk for becoming victims of violence, both from clients and police, especially due to the secretive nature of their work as commercial sex work is illegal in South Africa.<sup>53</sup> The illegal status of the commercial sex industry also results in increased stigma. In addition, competition for clients can lead to violence within the sex worker community itself. A survey conducted in Gauteng revealed that 41% of the sample did not think a sex worker should go to the police or exercise her legal rights if she was raped or assaulted.<sup>54</sup> The Executive Director of UNAIDS, Peter Piot is quoted from the 1999 UN Commission of the Status of Women – “How can we win the battle against AIDS without singling out violence as a force driving the epidemic?”

## **4 Conclusions and Recommendations**

### **4.1 Youth**

As previously noted, prevalence levels in teenagers have consistently declined over the past several years; however prevalence levels for women in their 20s are skyrocketing. This implies that interventions targeted at youth – presumably school based - are effective but that the lessons learned are not carried through as teenagers become young adults.

According to the 2000 World Bank statistics, 88.9% of eligible students are enrolled in primary school and 57.2% are enrolled in secondary school; schooling is compulsory for all youth aged 6-15 years. Approximately 5.6 million students are enrolled at the tertiary level. Interventions should be continued through university so that lessons learned are not forgotten and safe behavior is reinforced. However, university level interventions, whether designed as part of a curriculum or integrated into the “social life” structure of the university need to be designed to meet the students’ needs. Interviews with university students expressed frustration with the HIV prevention programs they had been exposed to in the past. Studies conducted with university and 9<sup>th</sup>-11<sup>th</sup> grade students revealed that many of them felt “bored” with prevention messages and didn’t feel that the HIV prevention programs they had been exposed to in the past addressed the contextual factors in their environments which could either encourage or discourage safer sexual behavior. The research also revealed that students from different racial groups had differing opinions about prevention messages and their applicability.

The majority of the black students expressed a general sense of pessimism and appeared resigned to a life of hardship – feelings which can exacerbate risky behavior. In addition, many of the black students noted that AIDS was not often discussed in their communities, but instead kept secret and even attributed to witchcraft. Some students felt that condoms were “plastics” designed to keep the black population small. Most students said they would never discuss sex with their parents and instead relied on peers for information.<sup>55</sup> Interventions for these students should focus on reasons for them to be

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<sup>53</sup> Wojcicki – p1

<sup>54</sup> Wojcicki – p2

<sup>55</sup> Frizelle and King – p2

hopeful and positive about their futures. Including roll models, such as former students who had “made it” might be helpful in reinforcing a positive future outlook. In addition, many of the students mentioned that behavior change messages would be more effective if they included famous people and felt that seeking out popular entertainment personalities who were HIV-positive would help foster discourse within their communities. Community based interventions targeted at unemployed youth in urban informal settlements could use many of the same strategies. Equally important in any prevention strategy would be open discussion of gender roles and perceptions in order to combat the low status of black women and violence. The incorporation of positive black female roll models could increase self-esteem of young women and encourage young men to view their female counterparts in a different light.

Indian students felt that prevention messages gave them the impression that AIDS was a disease which affected only poor blacks or white homosexuals and that they were somehow excluded from vulnerability to infection. Indian students felt that cultural taboos discouraged open discussion about sex and that their religious leaders should be included in prevention efforts in order to help challenge those taboos, but also noted that many Indians felt culturally encroached upon as most prevention messages imply an adoption of more western cultures and norms.<sup>56</sup> For the most part, all the Indian students agreed that not enough information was reaching them and felt largely ignored by prevention programs.

White students generally felt that AIDS was a disease of the poor and the uneducated and because of their generally more affluent status that they were also immune. It was also observed that white students felt that more doors were open to them and thus had a more positive attitude about their future which translated into a sense of invincibility and correspondingly riskier sexual behavior. They felt that the most effective prevention message could be brought to them by being addressed by one of their social peers who “got drunk one night, had unprotected sex and contracted the virus.”<sup>57</sup>

## **4.2 Migrants**

Migrant workers could benefit from workplace interventions including STI treatment and VCT clinics, which are already being implemented in many areas with large migrant worker populations. Migrant workers spend long periods of time away from their homes and often find other partners – be they sex workers, casual or even regular partners, such as “town families” while they are away. Condom use was highest with sex workers and lowest with regular and home based partners. It seems most likely that immediate interventions targeted at promoting condom use with sex workers will have the largest short run effect of reducing transmission from sex workers to migrant workers. These interventions should contain components designed to encourage condom use with all partners, but research suggests that this is a behavior which people are most likely to adopt slowly – in some cases, research has suggested that once condoms are discarded in a relationship it is very difficult to reintroduce them. Interventions could place the

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<sup>56</sup> Frizelle and King – p3

<sup>57</sup> Frizelle and King – p3

priority on condom use, first with sex workers, then casual partners, then regular partners, with the goal of overcoming reluctance to condom use with all partners more gradually so as not to elicit a knee-jerk rejection of the concept.

The majority of research reviewed had acknowledged that more needs to be done with the partners of migrant workers. Interestingly, the research conducted in South Africa has shown that rural partners of non-migrant workers have higher prevalence levels. Research focusing on the partners of migrant workers from other countries has indicated that many of the women take on additional sexual partners while their husbands or boyfriends are away and the reasons given were: protection, financial support, physical desire and boredom. Increasing prevalence rates among rural women in South Africa indicate that the time for a targeted intervention there is now. Research should be conducted on why women find themselves in financial hardship while their partners are away, and alternatives should be explored so women do not feel their only solution is to become financially dependent on another man. Possible areas of focus could be determining why remittances are not being successfully delivered and seeking to ways to improve that process. Income generating activities that all rural women could engage in to reduce their economic vulnerability should be investigated. Community income generating projects for rural women could have a multi-fold effect: they would reduce dependency on absent men, they would foster a greater sense of community and self-perception for the women, and they could even result in increased security for women as tight knit groups are formed and offer the greater prospect of collective security.

Interventions focusing on migrant workers should also focus on the towns surrounding work sites. In many cases these are economically depressed areas and many of the residents view the worksite as their primary means of earning money. In this atmosphere women are often encouraged into becoming sex workers or young women look toward partnerships with the workers as a means toward financial support. Again, the women in these communities need to be provided with other options than economic dependence on men through a sexual relationship. Until those opportunities present themselves, women need to be encouraged to use condoms in all their relationships. Messages should help to reduce the stigma in South Africa which associates a woman who uses a condom as being a sex worker, unfaithful or infected.

Finally, many migrant workers have dangerous jobs in which the likelihood of injury or death is great. Facing these risks every day, miners turn to alcohol, drugs and women as stress relievers, especially in the all male context in which they live (dormitories) without the support network of their families and home communities. Projects aimed at improving workplace safety could reduce stress levels and corresponding risk-taking behavior. Research should be conducted into providing on-site support services for the workers, possibly even company arranged visits with families. Healthy, stress relieving activities, such as group and team sports, movies and other forms of entertainment should be promoted.

### **4.3 Truck Drivers**

As with migrant workers, truck drivers can be reached through workplace interventions. However, from the available research it appears that continued condom prevention messages may not be enough. In addition, research has shown that many truck drivers feel stigmatized by targeted prevention efforts and believe that they are consequently discriminated against by people they come in contact with during their hauls. Drivers cited working conditions as abysmal and believed that those conditions contributed to their risky behavior. Working with trucking companies to improve worker conditions could have a positive effect on employee behavior. Areas for improvement could include increasing the provided per diem so drivers and their assistants can afford safe places to sleep rather than spending the night with a sex worker and reducing the number of hours worked to alleviate stress and potentially dangerous side effects of lack of sleep.

Trucking companies should be encouraged to explore partnerships with owners of truck stops in an effort to create “healthy truck stops.” A partnership of this kind could be particularly effective because of the vested interest of both parties. Truck stops could be designed to offer alternative forms of entertainment, perhaps even at cost to the users. Trucking companies could assist in the design, obtaining feedback from their drivers as to what would be attractive elements. Companies could be encouraged to increase the per diem, or provide drivers with an entertainment allowance. Drivers would receive receipts from the truck stops and would liquidate back any of the unspent allowance. The long-run economic benefits for the trucking companies would be great as they would have reduced driver turn over and sick days. In the medium to long-run this would reduce the variable costs associated with temporary reductions in their workforce as well as training and recruitment costs.

In surveys of STI histories, truck drivers indicated difficulty in obtaining medical care while on the road. They cite the absence of clinics and daytime only hours as impediments. In some cases, clinics are inaccessible because of the size of their trucks. Finally, where clinics are available, drivers complained of poor treatment due to negative perceptions of truckers, and the lack of time to wait for follow-up visits to ensure complete treatment. Suggestions for improved care have included mobile and 24-hour clinics. Creating a medical history card would allow drivers to maintain a record of treatments or diagnoses received at any one clinic. They could present this card at the next clinic in order to receive follow-up care to ensure full and complete treatment – this would also present the opportunity for further counseling by well trained staff.

### **4.4 Sex Workers**

Sex workers did not indicate access to or knowledge of condoms as an impediment to use. Rather, they noted that client unwillingness to use condoms and their own poor negotiating position as major barriers. Projects designed to focus on sex workers need to ensure that they are reaching their clients and educating them on the importance of condom use.

Available and consistent medical care needs to be provided. Commercial sex workers often indicated reluctance to visit health clinics for STI treatments due to stigma and low status within the community. They felt that nurses and clinicians berated and looked down on them, increasing their reluctance to seek out care. Clinic staff must be trained to professionally treat, without judgment, any patient in need.

The illegal status of commercial sex work and the low community perception of sex workers make it difficult for them to band together. Interviews with commercial sex workers indicated that they often felt ostracized from the community and lacked a sense of self-identity as being part of any greater societal network. Barring legislation legalizing and regulating commercial sex work, efforts should be made to improve group cohesion among sex workers. This would be beneficial in several ways:

- Negotiating ability vis a vis condom use – if all sex workers insisted that their clients use condoms then clients wouldn't be able to “shop around” for sex workers with laxer restrictions on condom use. In addition, a stronger sense of group identity could reduce competition between sex workers helping to eliminate intra-group violence.
- A stronger support network – sex workers banded together may offer greater protection for members of the group as a whole, potentially increasing their ability to report acts of violence against any one member. In addition groups can provide care and support networks for family members, such as children, or sex workers who fall ill.

As mentioned earlier; potentially the most effective prevention efforts for sex workers and women who exchange sex for gifts, money or security would be to present alternatives – mainly income generating alternatives. In the case of self-identified commercial sex workers, they could be encouraged to engage as a group in an income producing activity. Such a project would help solidify the group, create an identity which is not solely associated with sex work, and improve the self-esteem and future outlook for these women.

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