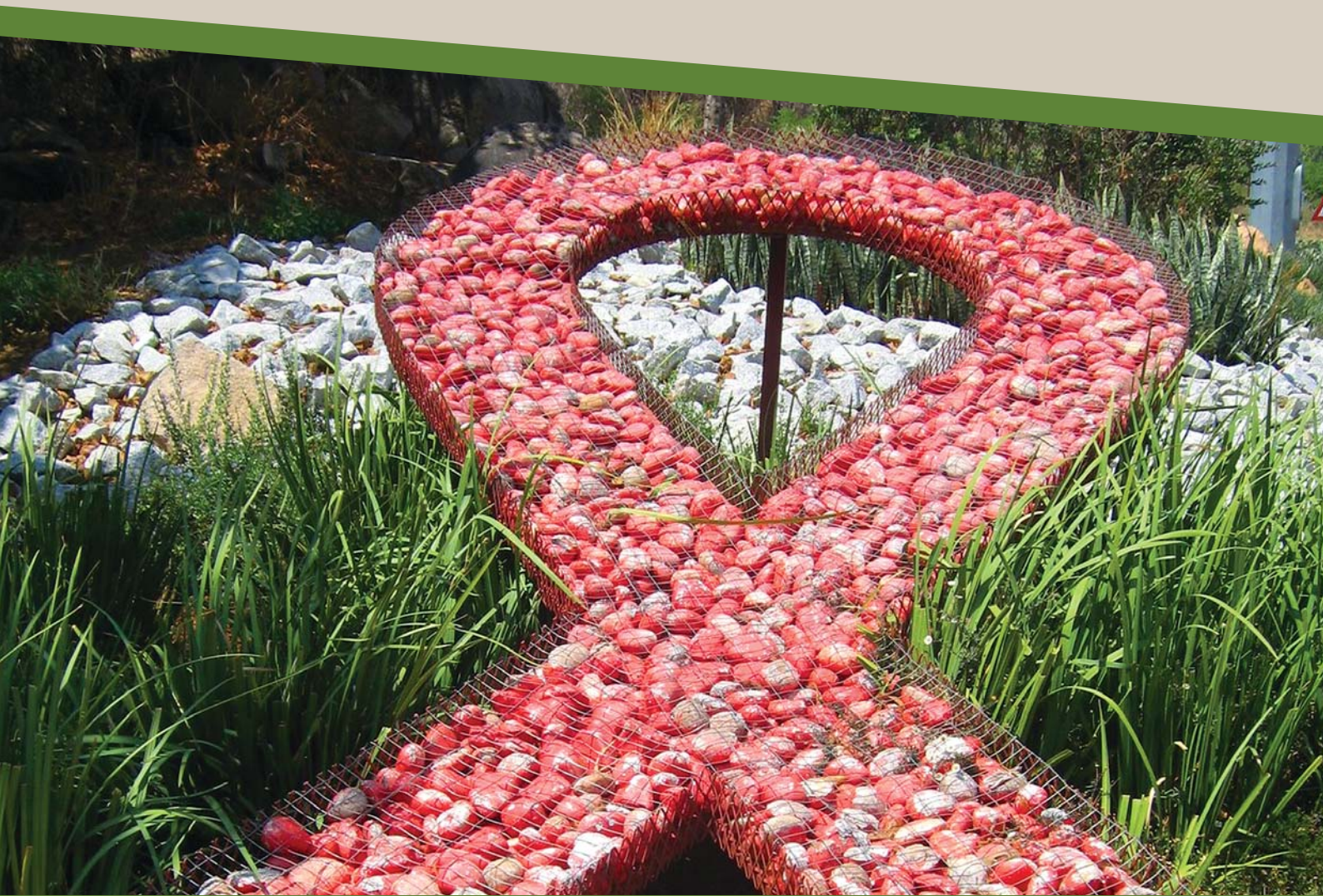


HIV prevalence and Related factors

Higher Education Sector Study

South Africa

2008–2009



HEAIDS

HIGHER EDUCATION HIV/AIDS PROGRAMME

Published by Higher Education HIV and AIDS Programme (HEAIDS)

Postal address Higher Education South Africa, PO Box 27392, Sunnyside 0132

Telephone 012 484 1134

Website www.heaims.org.za

ISBN 978-0-620-46068-2

© 2010, HEAIDS

Citation HEAIDS, 2010. *HIV prevalence and Related factors – Higher Education Sector Study, South Africa, 2008–2009*. Pretoria: Higher Education South Africa

Cover photograph by Laura Myers

Design, layout and printing Marketing Support Service 012 346 2168



higher education
& training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA



Funded under the European Programme
for Reconstruction and Development

Contents

Acknowledgements	iii
List of Tables	iv
Acronyms and Abbreviations	vii
Executive Summary	x
Background and context	x
Study methodology	x
Ethics approval	xi
Summary findings	xi
Students	xi
Qualitative results	xv
Conclusions	xviii
Recommendations	xx
SECTION ONE	
Introduction	1
Background and context	1
Objectives of the study	2
Literature review	2
SECTION TWO	
Study Methodology	10
Overall methodology and rationale	10
Study population	10

Quantitative study sample sizes	11
Approach to sampling of strata and clusters for the quantitative study	12
Standardised approaches to collecting data	14
Quantitative data collation	15
The Qualitative Study	16
Ethics approval process	19
Participation	20
Data analysis	22
Strengths and limitations	26
SECTION THREE	
Quantitative Findings	29
Students	29
Academic staff	48
Administrative staff	56
Service staff	66
SECTION FOUR	
Qualitative Research Findings	77
HIV vulnerability and susceptibility	77
Institutional HIV and AIDS response environment	91
Promising Interventions derived from the qualitative study	100
SECTION FIVE	
Discussion and Conclusions	103
HIV prevalence findings	103
SECTION SIX	
Recommendations	111
General recommendations	111
Notes	117
References	122

Acknowledgments

We would like to thank the following colleagues and respondents for facilitating the research that is summarised in this document:

- **The HEAIDS Programme Coordinating Unit:** Dr Gail Andrews, Ms Managa Pillay, Dr Shaidah Asmall (former HEAIDS Programme Director) and Ms Helen Williams (EPOS Health Management).
- **The Programme Working Group:** Prof Salim Abdool-Karim (CAPRISA – University KwaZulu-Natal), Ms Mary Crewe (University of Pretoria), Mr Mahlubi Mabizela (Department of Higher Education and Training), Prof Debbie Bradshaw (Medical Research Council), Prof Helen Rees (Reproductive Health Research Unit, University of the Witwatersrand) and Dr Lindi Makubalo (formerly Department of Health).
- **The external reviewers:** Prof Rob Dorrington and Prof Eric Udjo.
- **The research team:** Dr Mark Colvin, Dr Kevin Kelly, Dr Warren Parker, Ms Cathy Connolly, Dr Lewis Ndlovu, Dr Paolo Craviolatti.
- The contracted consortium led by Futures Group Europe, (with Dr Farley Cleghorn as the technical monitor) in partnership with Centre for AIDS Development, Research and Evaluation (CADRE) and Epicentre AIDS Risk Management and all support staff and field workers who ensured that data collection for this complex study was successfully concluded.
- The Vice Chancellors, Deans, Managers, Administrators, Lecturing Staff, Union and Student leaders at participating universities for their assistance.
- The staff and students who participated in the study without whose participation the study would not have been possible.

List of Tables

Table 1	Key indicators: Students by region	xxiv
Table 2	Key indicators: Academic staff by region	xxvi
Table 3	Key indicators: Administrative staff by region	xxvii
Table 4	Key indicators: Service staff by region	xxviii
Table 5	Allocation of student samples by HEI size categories with approximate confidence intervals . . .	11
Table 6	Allocation of student samples by institution	12
Table 7	Allocation of staff samples by HEI size categories with approximate confidence intervals	13
Table 8	Allocation of staff samples by institution	13
Table 9	Summary of qualitative data collection	17
Table 10	Summary of qualitative study participants	18
Table 11	Total staff and student numbers, HEMIS 2006, and sample size	20
Table 12	Demographic description of the sampled population	21
Table 13	Response rates at the institutions by region	22
Table 14	Number and proportion of participants who provided a questionnaire and a DBS	23
Table 15	Comparison of HEMIS database with the weighted study database	24
Table 16a	Distribution of demographic and risk factors among students	30
Table 16b	HIV prevalence in relation to demographic and risk factors among students	31
Table 17a	HIV risk behaviours and vulnerability among males (age standardised)	32
Table 17b	HIV risk behaviours and vulnerability among females (age standardised)	33
Table 18a	Sexual practices among students	34
Table 18b	HIV prevalence in relation to sexual practices among students	35
Table 19a	Other HIV-related behaviours and practices among students	36

Table 19b	HIV prevalence by various behaviours and practices among students	37
Table 20	Knowledge and attitudes related to HIV among students	38
Table 21	Exposure, perceptions and vulnerabilities related to HIV and AIDS among students	40
Table 22	Perceptions of leadership and responses related to HIV and AIDS among students	41
Table 23	Exposure, two days a week or more, by medium	42
Table 24	Response to: “Have any of the following made you take HIV and AIDS more seriously in the past year?” among students	42
Table 25	Prevalence of HIV among students at HEIs by region	43
Table 26	Comparison of risk factors for acquiring HIV among students by low, medium and high HIV prevalence institutions	43
Table 27	Comparison of risk factors for acquiring HIV among African students by low, medium and high HIV prevalence institutions	44
Table 28	A multiple logistic analysis among sexually experienced students to identify independent factors associated with being HIV positive	45
Table 29a	Distribution of demographic and risk factors among academic staff	46
Table 29b	HIV prevalence in relation to demographic and risk factors among academic staff	47
Table 30a	Sexual practices among academic staff	48
Table 30b	HIV prevalence in relation to sexual practices among academic staff	49
Table 31a	Other HIV-related behaviours and practices among academic staff	50
Table 31b	HIV prevalence and other HIV-related behaviours and practices among academic staff	51
Table 32	Knowledge and attitudes related to HIV among academic staff	52
Table 33	Exposures and vulnerabilities related to HIV and AIDS among academic staff	53
Table 34	Perceptions of leadership and responses related to HIV and AIDS among academic staff	54
Table 35	Exposure, two days a week or more, by medium	55
Table 36	Response to: “Have any of the following made you take HIV and AIDS more seriously in the past year?” among academic staff	56
Table 37a	Distribution of demographic and risk factors among administrative staff	57
Table 37b	HIV prevalence in relation to demographic and risk factors among administrative staff	58
Table 38a	Sexual practices among administrative staff	59
Table 38b	HIV prevalence in relation to sexual practices among administrative staff	59
Table 39a	Other HIV-related behaviours and practices among administrative staff	60
Table 39b	HIV prevalence and other HIV-related behaviours and practices among administrative staff	62
Table 40	Knowledge and attitudes related to HIV among administrative staff	63
Table 41	Exposures and vulnerabilities related to HIV and AIDS among administrative staff	64

Table 42	Perceptions of leadership and responses related to HIV and AIDS among administrative staff . .	65
Table 43	Exposure, two days a week or more, by medium	66
Table 44	Response to “Have any of the following made you take HIV and AIDS more seriously in the past year?” among administrative staff	66
Table 45a	Distribution of demographic and risk factors among service staff	67
Table 45b	HIV prevalence in relation to demographic and risk factors among service staff	68
Table 46a	Sexual practices among service staff	69
Table 46b	Sexual practices among service staff	69
Table 47a	Other HIV-related behaviours and practices among service staff	70
Table 47b	HIV prevalence and other HIV-related behaviours and practices among service staff	71
Table 48	Knowledge and attitudes related to HIV among service staff	72
Table 49	Exposures and vulnerabilities related to HIV and AIDS among service staff	74
Table 50	Perceptions of leadership and responses related to HIV and AIDS among service staff	75
Table 51	Exposure, two days a week or more, by medium	75
Table 52	Response to “Have any of the following made you take HIV and AIDS more seriously in the past year?” among service staff	76
Table 53	Comparison of HIV prevalence for the combined higher education population with other recent surveys	103
Table 54	Comparison of HIV prevalence among youth with other recent surveys	103
Table 55	Comparison of HIV prevalence by sex with other recent studies	104
Table 56	Comparison of HIV prevalence by race between this study and other recent studies	104
Table 57	Association between HIV prevalence and level of education	105

Acronyms and Abbreviations

ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Treatment/Therapy
CADRE	Centre for AIDS Development, Research and Evaluation
DBS	Dried Blood Spot
DoHET	Department of Higher Education and Training
EU	European Union
FGD	Focus Group Discussion
HEAIDS	Higher Education HIV and AIDS Programme
HE	Higher Education
HEI	Higher Education Institution
HEMIS	Higher Education Management Information System
HESA	Higher Education South Africa
HICC	HIV Institutional Coordinating Committee
HIV	Human Immunodeficiency Virus
HR	Human Resources
HSRC	Human Sciences Research Council
KABP	Knowledge, Attitude, Behaviour, Practice
LGBTI	Lesbian, Gay, Bisexual, Transsexual and Intersex

LSD	Lysergic Acid Diethylamide
MSM	Men who have sex with men
PMTCT	Prevention of mother to child transmission
SANAS	South African National Accreditation System
SAT	Standardised Assessment Tests
SRH	Sexual and reproductive health
STI	Sexually Transmitted Infection
VCT	Voluntary Counselling and Testing
WHO	World Health Organization
WSW	Women who have sex with women
UNAIDS	Joint United Nations Programme on HIV and AIDS

ABBREVIATIONS AND ACRONYMS FOR INSTITUTIONS

CPUT	Cape Peninsula University of Technology
CUT	Central University of Technology
DUT	Durban University of Technology
MUT	Mangosuthu University of Technology
NMMU	Nelson Mandela Metropolitan University
NWU	North-West University
Rhodes	Rhodes University
SU	Stellenbosch University
TUT	Tshwane University of Technology
UCT	University of Cape Town
UFH	University of Fort Hare
UFS	University of the Free State
UJ	University of Johannesburg
UKZN	University of KwaZulu-Natal
UL	University of Limpopo
UP	University of Pretoria

Univen	University of Venda
UWC	University of the Western Cape
Wits	University of the Witwatersrand
UNISA	University of South Africa
Unizulu	University of Zululand
VUT	Vaal University of Technology
WSU	Walter Sisulu University

ABBREVIATIONS FOR PROVINCES

EC	Eastern Cape
FS	Free State
GAU	Gauteng
KZN	KwaZulu-Natal
LP	Limpopo
NW	North West
WC	Western Cape

Executive Summary

BACKGROUND AND CONTEXT

This HIV prevalence and knowledge, attitude, behaviour and practice (KABP) study in the tertiary education sector of South Africa is one component of the Higher Education HIV and AIDS (HEAIDS) programme (Phase 2). It represents the first comprehensive attempt to survey the scope and impact of HIV and AIDS in the higher education sector in South Africa. The overall purpose of the HEAIDS programme is to reduce the threat of HIV and AIDS in the higher education sector and to mitigate its impact.

The purpose of this study was to enable the higher education sector to understand the threat posed by the epidemic to its core mandate. This was done through determining, at the institutional and sector level, the prevalence and distribution of HIV and associated risk factors among the staff and students at public, higher education institutions (HEIs) in South Africa. The results were used to conduct an assessment of the risks posed by the HIV epidemic to the sector and their respective populations and make recommendations to mitigate potential impacts.

STUDY METHODOLOGY

The study population consisted of students and employees at 21 HEIs in South Africa where contact teaching¹ occurs. UNISA was excluded because that

university only offers distance learning and Tshwane University of Technology was also excluded because unrest on the campus during the planned study implementation period prevented study staff from gaining access. The cross-sectional study design used is categorised by UNAIDS/WHO as an ‘unlinked, anonymous HIV survey with informed consent²’. The study comprised an HIV prevalence study, a knowledge, attitude, behaviour and practice (KABP) survey, a qualitative study and a risk assessment.

Each HEI population was stratified by campus and faculty/class and then clusters of students and staff were selected for the study using standard randomisation techniques. Individuals were not selected. An overall sample of 25 000 respondents was targeted. Self-administered questionnaires were used to obtain demographic, socio-economic, behavioural and HEI-related data, and blood spots were obtained by finger prick. The HIV status of participants was determined by laboratory testing of dry blood spots (DBS) obtained using standard methodology. Field work for the study was conducted between August 2008 and February 2009.

The qualitative study consisted of focus group discussions and key informant interviews on selected themes at each HEI. The purpose of this component of the study was to contextualise and deepen understanding of the results of the quantitative survey. A total of 67 focus groups involving staff and students were convened. Twelve of these focused on contextual factors affecting

HIV infection, eleven addressed institutional responses and HIV prevention and support initiatives on campus, while twenty-five explored both. A further three discussion groups were with men who have sex with men and there were in-depth interviews with nine individuals involved in student associations for lesbian and gay people. Specific issues relating to alcohol consumption and party drug use were explored at two campuses, and drug addiction in three groups. Eleven discussions were held with people who were HIV positive, and a further eight individual interviews were held with people unwilling to disclose their HIV-positive status to others. In total, 107 known HIV-positive participants were included in the qualitative study. Over 600 people were involved in the qualitative study, including both focus group and interview participants.

The results of the quantitative and qualitative research formed the basis for a risk assessment for each HEI and the sector. The institutional risk assessment focuses on “risk exposure” as this addresses the issues of vulnerability and susceptibility of HEIs to HIV and AIDS.

ETHICS APPROVAL

Ethical approval to conduct this study was sought and received from all HEIs that have internal Ethics Committees. The two institutions that did not have internal Ethics Committees – Central University of Technology (CUT) and Vaal University of Technology (VUT) – accepted the rulings from Ethics Committees from neighbouring HEIs, i.e. University of the Free State (UFS) and the University of Witwatersrand (Wits) respectively.

Participation in all elements of the study was voluntary, and written informed consent was obtained from all participants. The study was conducted anonymously and no identifying information such as individual identity numbers or student numbers were obtained from any participant. Separate voluntary counselling and testing (VCT) was provided at no cost to any participants who wished to know their own HIV status during the time of the study at each HEI.

SUMMARY FINDINGS

Out of a total of 29 856 eligible participants available at testing venues, 23 605 (79,1%) participated fully by completing questionnaires and providing specimens. Because of a substantial amount of missing data in 230 questionnaires, the final database comprised 23 375 individuals made up of 17 062 students, 1 880 academic staff and 4 433 administrative and service staff.

STUDENTS

The mean HIV prevalence for students was 3,4% [CI: 2,7%–4,4%]. Among the two thirds (65%) of students who reported having had sex, HIV prevalence was 3,8%.

The province with the highest HIV prevalence at 6,4% [CI: 4,6%–8,9%] was Eastern Cape (EC) while Western Cape (WC) was lowest at 1,1% [CI: 0,7%–1,7%]. However, there were often wide variations in HIV prevalence between HEIs within regions. For example, the EC has the HEI with the lowest HIV prevalence nationally and the HEI with the second highest HIV prevalence.

Females, with an HIV prevalence of 4,7% [CI: 3,6%–6,1%], were more than three times as likely to be HIV positive compared to males 1,5% [CI: 1,0%–2,1%] and this difference was statistically significant ($p < 0,001$). This pattern was consistent across the provinces.

Among those aged 18–19 years, HIV prevalence was lower at 0,7% [CI: 0,5%–1,1%], in comparison to those aged 20–25 years (2,3% [CI: 1,9%–2,8%]) and those over 25 years (8,3% [CI: 6,3%–11,0%]).

The highest prevalence of HIV occurred among Africans – 5,6% [CI: 4,4%–7,0%], with one case of HIV among the 3 112 white students. Only 0,8% of Coloureds [CI: 0,3%–2,3%], and 0,3% of Indians [CI: 0,1%–1,3%], were found to be HIV positive.

HIV was significantly more common among men (6,5% [CI: 3,9%–10,8%]) and women (12,1% [CI: 8,7%–16,5%])

who reported symptoms of an STI in the last year compared to men (2,5% [CI: 1,7%–3,5%]) and women (6,0% [CI: 4,5%–7,9%]) who did not report an STI.

Men tended to report more sexual partners in the past month (19%) than women did (6%). A similar proportion of men (6%) and women (7%) reported sexual partners that were 10 years or older which may indicate that age-disparate sex is equally common among male and female students although the latter tends to be less visible.

The majority of students who had sex in the past year (60%) reported using condoms at last sex.

Most students drink alcohol either occasionally or never (89%), with only around one in nine (11%) drinking once a week or more. However, over a third of students (35%), including those who drink occasionally, reported being drunk in the past month indicating high levels of binge drinking.

A small proportion of students who had sex in the past year said that they were tricked or pressurised into having sex when they didn't want it (5%), while an even lower proportion reported expecting money or gifts in exchange for sex (2%).

A multiple logistic regression analysis was done among sexually experienced students to identify independent factors associated with being HIV positive. Among demographic factors, age was strongly associated with HIV as was race, sex and socioeconomic bracket.

Among biological factors, students reporting a genital sore or unusual discharge in the past three months were more likely to be HIV positive and students whose sexual partner was 10 years older were also more likely to be infected.

Interestingly, individuals who drink alcohol were significantly less likely to be HIV positive than those that did not drink and individuals who reported being drunk in the last month were also less likely to be HIV infected in comparison to those that did not report being drunk. This relationship held even when potential confounders were controlled for.

Overall knowledge of HIV among students was high, but was inadequate for two key statements: knowledge of HIV transmission through breastfeeding, which only 66% answered correctly, and the availability of post-exposure prophylaxis in the case of rape which was answered correctly by only 55% of students.

Stigmatising attitudes to people living with HIV were overall low, with around nine out of ten students being accepting of HIV-positive people. However, only 36% agreed that their friends at the institution would support them if they were HIV positive.

There was not a strong sense among students that they were safe from physical harm at the institution, with only 61% agreeing with the statement. Perceptions that physical injury through violent crime was a problem were held by 17% of students, while only just over a third (38%) agreed that female students were safe from sexual harassment at the institution.

Overall, students felt management and student leaders did not take HIV and AIDS seriously with only 52% and 38% respectively feeling this was the case. Two thirds (66%) felt that there should be more emphasis on HIV and AIDS in academic classes.

Given the prominent differences between HIV prevalence between African and other race groups, the data was analysed to explore the differences in HIV risk behaviours and vulnerability to HIV between race groups. Some of the differences between African males and males in other race groups combined show African males were more likely to: ever have had sex ($p<0,001$, OR:3,1 [2,6–3,8]); have an earlier mean age of sexual debut ($p<0,001$); have had more than one sexual partner in the past year ($p<0,001$, OR: 2,6 [2,0–3,4]); have had more than one sexual partner in the past month ($p<0,001$, OR: 5,0 [3,3–7,6]); report sores on genitals ($p<0,001$, OR: 4,8 [3,2–7,1]); report unusual discharge from genitals ($p<0,001$, 4,6 [2,6–8,4]).

In the case of African females, the following differences were noted in comparison to other race groups combined: African females were more likely to: ever have had sex ($p<0,001$, OR: 2,2 [1,8–2,5]); have had more

than one sexual partner in the past month ($p < 0,001$, OR: 2,3 [1,6–3,3]); have had a partner 10 or more years older ($p < 0,001$, OR: 3,0 [1,9–4,8]); report sores on genitals ($p < 0,001$, OR: 4,2 [2,7–6,6]); report unusual discharge from genitals ($p < 0,001$, OR: 2,2 [1,5–3,3]).

African males and females were significantly less likely to report having had sex while drunk compared to other race groups ($p < 0,01$).

Academic staff

The vast majority of academic staff (94%) are sexually experienced and have had sex in the last year (88%). While 5% [CI: 4,0%–8,0%] of men admitted to more than one sexual partner in the last month only 0,5% [CI: 0%–1,0%] of female academics admitted to more than one sexual partner (see Table 2).

Sexual liaisons between academic staff and students do not seem to be common, with only 2% of academics admitting that their most recent partner was a student.

The mean HIV prevalence for academic staff was 1,5% [CI: 0,9%–2,3%]. The province with the highest HIV prevalence at 3,3% [CI: 1,6%–6,6%] was EC while FS was lowest at 0,0% [CI: na].

Female academic staff, at an HIV prevalence of 1,4% [CI: 0,8%–2,5%], were as likely to be HIV positive as were males (1,5% [CI: 0,9%–2,5%]).

The prevalence of HIV was highest amongst African academics – 5,9% [CI: 4,2%–2,3%], with no cases of HIV among Coloured and Indian academic staff. Only 0,1% of White academic staff were found to be HIV positive and these were all in the Gauteng/North-West/Limpopo region.

Academic staff who were married were significantly less likely to be HIV positive at 1,0% in comparison to the prevalence of 2,4% among those who were not married ($p = 0,01$).

There was no association between HIV and faculty grouping.

There was a strong association between the prevalence of HIV among men (15,2% [CI: 5,3% – 36,3%]) and women (9,0% [CI: 3,0%–23,9%]) who reported symptoms of an STI ($p < 0,001$). The prevalence of HIV among men not reporting an STI was only 1,2% [CI: 0,6% – 2,2%]) and among women not reporting it was 1,3% [CI: 0,7% – 2,3%]).

Around a quarter of academic staff (29%) had never tested for HIV, and of this group, 1,3% were HIV positive. Of the remainder of academic staff, around two fifths (42%) had tested more than a year ago, and around a third (29%) had tested in the past year. Among these two groups, HIV prevalence was 1,1% and 2,2% respectively.

Overall knowledge of HIV among academic staff was high, but was inadequate on two key statements: knowledge of HIV transmission through breastfeeding, which only around two thirds answered correctly (68%), and the availability of post-exposure prophylaxis in the case of rape which was answered correctly by three quarters of academic staff (76%).

Supportive attitudes to people living with HIV were overall high, with around nine out of ten academic staff being accepting of HIV-positive people. However, only 43% agreed that their friends at the institution would support them if they were found to be HIV positive.

Around two thirds of academic staff (70%) said that they were safe from physical harm at the institution. Perceptions that physical injury through violent crime was a problem were held by 17% of academic staff, while only 43% agreed that female students were safe from sexual harassment at the institution.

There was not strong agreement with the statements related to management and student leaders taking HIV and AIDS seriously, with only 63% agreeing that management did so, and only 53% agreeing that student leaders did so. Furthermore, around two thirds (61%) felt that there should be more emphasis on HIV and AIDS in academic classes.

Administrative staff

The mean HIV prevalence for administrative staff was 4,4% [CI: 3,2%–6,0%]. The province with the highest HIV prevalence at 9,2% [CI: 4,9%–16,5%] was KwaZulu-Natal (KZN) while WC was lowest at 0,9% [CI: 0,5%–1,6%].

Female administrative staff, at an HIV prevalence of 3,1% [CI: 2,1%–4,5%], were less likely to be HIV positive compared to males (6,2% [CI: 4,1%–9,3%] ($p=0,006$)).

The highest prevalence of HIV occurred among African staff – 11,5% [CI: 8,8%–14,8%], with almost no cases of HIV among White administrative staff, and low prevalence among Coloureds (0,3%) and Indians (1,7%).

Administrative staff who were married were significantly less likely to be HIV positive at 3,2% [CI: 2,1%–4,8%]) in comparison to the prevalence of 5,9% [CI: 4,1%–8,3%]) among those who were not married ($p=0,004$).

HIV prevalence is strongly associated with reported symptoms of an STI among men and women. A total of 20% [CI: 8,8%–39,5%] of men and 6,5% [CI: 2,8%–14,2%] of women who reported STI symptoms in the last year were HIV positive compared to 6,1% [CI: 4,1%–9,0%] of men, ($p<0,001$) and 2,8% [CI: 1,7%–4,7%] of women ($p=0,08$) being HIV positive who did not report symptoms.

Among administrative staff who had sex in the past year, 7% had more than one partner in the past month. This group had higher HIV prevalence than those with one partner in the past month – 9,4% vs. 4,6 ($p=0,04$).

Around a third of administrative staff (37%), had never tested for HIV, and of this group, 4,1% were HIV positive. Of the remainder of administrative staff, a third (33%) had tested more than a year ago, and just less than a third (29%) had tested in the past year. Among these two groups, HIV prevalence was 4,0% and 5,1% respectively.

Most administrative staff drink alcohol either occasionally or never (87%), with 13% drinking once a week or more but there was no significant difference in HIV between these groups. The highest prevalence of HIV (7,8%) was among the 21% of administrative staff who reported being drunk in the past month compared to those who were not drunk in the past month (3,4%, $p=0,003$).

Overall knowledge of HIV among administrative staff was high, but was inadequate on two key statements: knowledge of HIV transmission through breastfeeding, which only 58% answered correctly, and the availability of post-exposure prophylaxis in the case of rape which was answered correctly by two thirds of administrative staff (66%).

Supportive attitudes to people living with HIV were overall high, with around nine out of ten administrative staff being accepting of HIV-positive people. However, only 37% agreed that their friends at the institution would support them if they were found to be HIV positive.

Around two thirds of administrative staff (64%) said that they were safe from physical harm at the institution. However, perceptions that physical injury through violent crime was a problem were held by 19% of administrative staff, while only 40% agreed that female students were safe from sexual harassment at the institution.

There was not strong agreement with the statement related to management taking HIV and AIDS seriously with only 62% agreeing.

Service staff

The mean HIV prevalence for service staff was 12,2% [CI: 9,9%–14,9%], the highest of all four institutional categories and significantly higher than academics and students ($p<0,05$). The province with the highest HIV prevalence at 20,3% [CI: 13,4%–29,4%] was KZN while WC was lowest at 1,2% [CI: 0,4–3,4%].

Female service staff were slightly less likely to be HIV positive, 11,3% [CI: 8,4%–15,1%], compared to

males, 13,0% [CI: 9,9%–17,0%], but this was not significant ($p=0,5$).

The highest prevalence of HIV occurred among Africans – 17,2% [CI: 14,0%–21,0%], with no cases of HIV among White or Indian service staff, and low prevalence among Coloureds (2,6%).

Service staff who were married were less likely to be HIV positive at 9,6% in comparison to the prevalence of 14,7% among those who were not married ($p=0,02$).

Among those who were absent for three or more days in the past month, 19,6% were found to be HIV positive, compared to 9,8% ($p=0,002$) amongst those who were absent for less than three days in the past month.

Among service staff who had ever had sex, 19% had not had sex in the past year. Around two thirds (61%) had one sexual partner in the past year, while 20% had two or more partners. HIV prevalence was higher among those with more than one partner in the past year in comparison to those with one partner only – 15,5% vs 12,1% ($p=0,3$) but this was not statistically significant.

Nearly half of service staff (48%) had never tested for HIV, and of this group 10,7% were HIV positive. Of those who had tested, 23% had tested more than a year ago, and 28% had tested in the past year. Among these two groups, HIV prevalence was 11,1% and 15,7% respectively.

Most service staff drink alcohol either occasionally or never (90%), with 10% drinking once a week or more. However, 24% of service staff, including those who drink occasionally, reported being drunk in the past month. There were no significant associations between alcohol or drug use and HIV.

Overall knowledge of HIV among service staff was high, but was inadequate on two key statements: knowledge of HIV transmission through breastfeeding, which only 59% answered correctly, and the availability of post-exposure prophylaxis in the case of rape which was answered correctly by 55% of service staff.

Supportive attitudes to people living with HIV were fairly high, with around eight out of ten service staff being accepting of HIV-positive people. However, only 41% agreed that their friends at the institution would support them if they were found to be HIV positive.

There was not strong agreement with the statement related to management taking HIV and AIDS seriously, with only 54% agreeing.

QUALITATIVE RESULTS

HIV vulnerability and susceptibility

Qualitative data emphasised how for students residing away from home for the first time, the first months at university required them to manage freedoms they had not previously had. It was widely reported that during this period first-year students lack the experience to make good, risk-aware decisions, especially regarding sexual liaisons and the use of alcohol.

Both male and female students reported that they initially tended not to adequately manage the risks associated with their new-found freedom. The most notable risk during this period is casual sexual intercourse without using condoms in the context of alcohol intake.

While campus authorities are aware of the risks to students in this transitional phase and orientation weeks are held on most campuses where some form of advice and guidance about risks and how to manage these is included, students report that during this brief period they are too unsettled really to appreciate what is said at orientation briefings and meetings. This points to the need to guide and support students more consistently over their first few months at university.

Patterns of sexual relationship

The general finding from the qualitative data is that it is more acceptable among males for males to have more than one partner at a time.

Partners from ‘home’ tend to be seen as ongoing and these relationships tend to continue over periods of time, although opportunities to be together are intermittent. In the interim the student will have relationships at university.

Whereas concurrent partners are not openly acknowledged or accepted within relationships there is, in many cases, a tacit social acceptance of both men and women having more than one partner, and friends may often protect individuals from what they know about their partner’s concurrent relationships.

Transactional sex

The degree to which transactional sex was acknowledged and spoken about indicates that the general concept of exchanging sex for social and material gain is commonplace. The qualitative data provides evidence that less direct forms of material transaction are pervasive and carry much greater social acceptance. It is not only vulnerability, but also social aspiration, recreation and other non-forced choices that lead students to sex for gain. Such relationships tend to lead mainly female students to relationships outside of their peer-group and outside of the student community.

Age differentials

Intergenerational relationships with non-campus partners, on the other hand, were frequent. Participants consistently described such men as ‘sponsors’ who are looked to principally for the opportunities and material gains they provide access to. It was stated that in such relationships females have little power to negotiate condom use.

Condom use

Students reported that condoms are most often used in casual, once-off, and new sexual relationships – unless these are accompanied by substance abuse, particularly alcohol, in which case condom use drops sharply.

Some females who carry condoms or initiate condom use are targeted as being promiscuous, or HIV

positive. However, many young women described strong resistance and resilience in the face of such stereotyping and stigmatisation.

Campus leadership and HIV and AIDS management structures

Campus management and student leadership need to take heed of the perception on the part of a significant proportion of students and staff, as shown in the quantitative component of this study, that they do not take HIV and AIDS seriously.

The qualitative study found that such perceptions were shaped by lack of visible and vocal HIV leadership. This is not to say that leadership is perceived as being unresponsive to HIV and AIDS, but rather that HIV and AIDS is not seen as a strong priority on most campuses.

Questions about accountability and responsibility for managing infection prevention, seeing to the needs of HIV-positive people and ensuring the effectiveness of interventions were often vaguely responded to, and even those most centrally involved tended to not adequately talk about the apportionment of responsibilities and commitments to develop services. There was general concern as to whether ambitious plans to intensify HIV and AIDS management on campus would be supported by management.

Voluntary Counselling and Testing (VCT)

Understanding the limited uptake of VCT on campus, particularly among students, is an important issue. Qualitative data suggested that the risk of stigma and rejection and a lack of understanding about positive living contribute to individuals being unaware of their HIV status. Students and staff reportedly fear the outcome of testing and/or seek to delay testing, preferring to wait until studies are completed, they decide to marry, or begin to feel sick.

Security and protection from harm

Campus security was regarded as inadequate on all campuses although it was much worse at some

than others. Qualitative data identified a range of problems including: access to some campuses not being regulated or monitored; campus security staff “looking the other way” for a small fee and allowing access to residences and campuses against regulations; security staff lacking authority and being disregarded with impunity by students; lack of responsiveness of security staff; security equipment like panic buttons not serviced or in working order; turnover of outsourced security staff with new staff not briefed on regulations or expectations; lack of enforcement of regulations relating to bringing alcohol onto campuses.

Unwanted and often insistent sexual advances constituted the most widespread forms of sexual harassment. This was reported by female students, with male students as the primary perpetrators. There were also reports of harassment by staff, including security staff at gates making lascivious remarks to passing students.

Campus support services

There was a range of student support services across campuses although these varied greatly by type and focus. On some campuses students were barely and sometimes not at all knowledgeable about existing services. On other campuses there was a range of health and counselling support services and students appeared to be well apprised of these.

Campuses were distinguished by the degree of proactive support provided to students. There were at least rudimentary support services on all campuses, but in many instances these appeared to be perfunctory rather than actively invested in and shaped to optimise student well being. Campuses with strong student support services provided comprehensive services, from academic support to strong residence management and support structures, university-funded counselling services, health services with an active outreach and health education component, student peer-education, and disciplinary procedures aimed at creating well-regulated social environments and closely managed campus security measures.

HIV positive care and support

Most focus group respondents in the HIV-positive groups said they did not know anyone on campus who openly admitted their HIV status. Though the quantitative data indicated that expressed levels of stigma are low, qualitative findings showed that profound levels of perceived stigma exist on campuses, often in subtle forms, e.g. avoidance of shared toilets, distanced friendships, and extensive gossip and suspicion about people’s HIV status.

In the qualitative study, disclosure, even in private settings, was deemed too risky for many HIV-positive people to consider. Fearing rejection, HIV-positive students described first ‘testing the waters’ to assess peers’ attitudes towards HIV and AIDS and circumstances where disclosure happened inadvertently.

While students and staff might be encouraged to know their status, available health care, psychosocial services, and basic support for those who tested positive varied across institutions, with overall low levels of HIV-specific support available. Lack of access to ART on or near campuses was a major problem, and staff and students who lacked medical aid described having to queue for hours to retrieve their treatment each month – often missing classes or work.

In environments where HIV-positive people felt uncomfortable disclosing or asking for help, the DramAidE Health Promoters were considered a valuable and trusted source of support, providing an example of how to live healthily, accept one’s status, access treatment, and maintain a positive attitude towards life.

Campus health clinics

Students using campus sexual and reproductive health services often felt that health service staff were critical of their being sexually active and were unsympathetic to their needs. On a number of campuses students felt that it was preferable to use other services which were perceived as more youth-friendly.

CONCLUSIONS

The most striking finding arising from the HIV prevalence results in this study is that the measured prevalence in the combined HEI sector population is substantially lower than found among the general population in South Africa. While the distribution of HIV follows national patterns in terms of sex, race, age group and education, the HIV prevalence is lower in the higher education population within all these demographic categories.

HIV prevalence in institutional categories

Academic staff have the lowest overall HIV prevalence at 1,5% [CI:0,9%–2,3%], followed by students at 3,4% [CI: 2,7%–3,4%], administrative staff at 4,4% [CI: 3,2%–6,0%], and service staff at 12,2% [CI: 9,9%–14,9%]. Service staff are significantly more likely to be HIV positive in comparison to other institutional categories.

HIV prevalence in regional groupings

Among academic, administrative and service staff, KZN has the highest prevalence by institutional category, followed by EC. EC has the highest prevalence among students at 6,4%, followed by KZN at 6,1%. The lowest overall prevalence among all groups was found in WC, ranging from 0,2% for academic staff, to 1,2% for service staff. This distribution is similar to other HIV prevalence studies in the case of KZN and WC, with EC and FS typically falling within the mid-range of prevalence as seen, for example, in the national HSRC survey.³

HIV prevalence and reported STI symptoms

While symptoms of genital sores or discharge among students and staff were measured subjectively, it was found that both males and females who reported such symptoms had substantially and significantly higher prevalence of HIV.

HIV prevalence in relation to same-sex practices

One in sixteen male students (6%) in HEIs reported same-sex practices in the past year, as did 2% of

female students. Both males and females who reported same-sex practices in the past year had a higher prevalence of HIV than those who did not but this was not statistically significant.

HIV prevalence in relation to heterosexual anal sex

Heterosexual anal sex has seldom been the focus of HIV prevention campaigns, yet in the present survey one in thirteen male and female students reported heterosexual anal sex in the past year. Among this group, HIV prevalence was found to be higher in males (3,0% vs.1,9%) and among females – (8,4% vs. 4,4%) but the difference was only significant for women ($p=0,002$). While the prevalence of this practice is informative – given that there has been little information available to date – further sub-studies may be necessary to understand this issue.

HIV prevalence in relation to older sexual partners

Sex with older partners is a risk factor for young people if their sexual partners are in higher prevalence pools as a product of being older. Among the 7% of female students aged 18–24 who reported that their most recent sexual partner was 10 or more years older, 12,8% were HIV positive. In comparison, those with partners less than ten years older, the HIV prevalence was 3,1%. Among male students, there was a similar prevalence disparity among the 6% of males with most recent partners 10 or more years older – the HIV prevalence was 3,9% in comparison to 0,8% for those who had partners less than 10 years older.

HIV prevalence and concurrent sexual partners

Concurrent sexual partnership was measured in the present survey as people who had more than one partner in the past month – and 19% of male students and 6% of female students reported that this applied to them. Prevalence levels were not however markedly different in comparison to those with only one partner in the past month. This is probably because of consistent condom use with casual partners. However,

more robust approaches to measuring concurrency in surveys have recently been established and these need to be used in future.

Condom use at last sex

Condom use at last sex was high among students compared to other groups – 65% among males aged 18–24 and 60% among those aged 25 and older.

Voluntary counselling and testing

While among students never testing was highest at 54%, it must be taken into account that only 65% have ever had sex before. Additionally, only 2,3% of those never tested were HIV positive –although in the EC, HIV prevalence among never testers was higher, at 7,5%. Among academic staff and administrative staff never having had a test applied to around a third of respondents, and HIV prevalence was 1,0% and 4,1% respectively. However, among the 48% of service staff who had never tested HIV prevalence was 10,7%.

Alcohol and drug abuse

The majority of students and staff said that they drank alcohol either occasionally or never. While a minority drank once a week or more, there were overall high rates of being drunk in the past month – 35% for students, 14% for academic staff, 21% for administrative staff, and 24% among service staff.

Surprisingly, the data in this study showed that students who admitted to being drunk in the last month were substantially and significantly *less* likely to be HIV positive. Even when controlling for race (because significantly more White male and female students than their African counterparts admitted to being drunk in the last month), being drunk in the last month was independently inversely associated with HIV.

There was very little use of harder drugs noted. Marijuana was found to have been used in the past month by 9% of students, and was particularly high in the WC at 14%.

HIV prevention knowledge and attitudes to sexual risk

Knowledge was measured through a battery of simple questions, and at this stage of the epidemic correct responses should be ubiquitous. Questions related to transmission of HIV through breastfeeding, the availability of drugs for post-exposure prophylaxis in the case of rape, and the legality of sex with partners younger than 16, all attained overall inadequate correct responses.

Males in general were more likely to have positive attitudes towards one-night-stands and towards males having concurrent partners.

Exposure to HIV and AIDS within community and institutional context

Varying levels of direct exposure to people with HIV or AIDS, or people who had died of AIDS were reported. A quarter or more of students and staff reported that in the past year a person they knew had said that they were living with HIV, and a smaller proportion had experienced the death from AIDS of someone they knew personally. Between 5% and 15% of students and staff had missed classes or work in the past year to attend a funeral of a person who had died of AIDS.

Within the institutional context, around a third more of students and staff reported being exposed to leaflets or booklets about HIV and AIDS or obtaining free condoms. Attending meetings or functions about HIV and AIDS were also noted. A minority were involved in HIV and AIDS clubs or organisations on campus, while around 10% in all institutional categories had been involved in AIDS research in the past year.

Attitudes to, and perceived acceptance of, people with HIV and AIDS

Both students and staff exhibited affirming attitudes towards people with HIV and AIDS, but there was a distinct contrast between these values and perceptions of acceptance by friends at the institution if it was revealed that they were HIV positive. Only 38%

of students, for example, thought they would be supported by friends.

Violence, crime and sexual harassment

While the majority of students and staff said they felt safe from physical harm at their institution, there was a fair proportion that did not agree with the statement, ranging from 60% among service staff to 71% among academic staff. Around half of academic, administrative and service staff also agreed with the statement “violent crime where people are physically injured is a serious problem at this institution”, as did 18% of students. This illustrates that institutions are not safe environments for students or staff.

There was also not strong agreement with the statement “female students are safe from sexual harassment at this institution”, with only around two fifths of students and staff agreeing – a finding that illustrates that sexism continues to be pervasive.

Perceptions of management and student leadership in relation to HIV and AIDS

While the view that the management of the institution were taking HIV and AIDS seriously was held by the majority of students and staff, the range of agreement was not particularly strong – 53% of students, 60% of academic staff, 62% of administrative staff and 54% of service staff. Student leaders fared worse, with only 50% of staff and 40% of students agreeing that they took HIV and AIDS seriously. The majority of students and staff also felt that there should be more emphasis on HIV and AIDS in academic classes.

RECOMMENDATIONS

This study has shown that the HIV epidemic is heterogeneous between and within HEIs. The response therefore needs to be diversified and customised towards specific needs rather than a generic, ‘one size fits all’ approach. The finding of large differences in HIV prevalence in relation to race needs to be taken into account. It must be stressed that the sexual

practices that give rise to the HIV epidemic remain consistent, irrespective of race, and that strategies that focus on the concept of limiting all new infections among HEI communities, irrespective of demographic characteristics or institutional categories, should remain a central focus.

Prevention strategies

HIV prevention programmes are often not directed towards dominant modes of HIV transmission on campuses. HIV prevention needs to depart from simple awareness campaigns, condom provision and VCT provision. Furthermore, it must be noted that if prevention methods are to work they need to be optimised for prevention purposes in a way that is stratified.

- **Service and administrative staff:** HEIs need to do more for staff, particularly administrative and service staff who have highest HIV prevalence and are also most affected by HIV and AIDS at home. There is a need to directly address this sector of institutional populations more systematically.
- **Condom availability and promotion:** Condoms must be consistently available in residences and public places where they can be readily accessed. Availability of condoms at social events and venues (e.g. alcohol venues, clubs, and ‘bashes’) should also be ensured. Campus shops should be encouraged to stock condoms, including the subsidised cost brands.
- **VCT:** It is well established in the literature that going through VCT has little influence on HIV prevention among individuals who test negative. VCT should therefore be seen as a supplementary strategy. The strategy is also possibly of very little relevance at low prevalence institutions and it represents unnecessary cost and effort in the context of a need for broader emphasis in response to the disease. At high prevalence institutions however, promotion of VCT should be aimed at ‘everyone knowing their status’ and campus management, staff union and student leadership should lead by public example. Added to the current emphasis on knowing your status should be the message of ‘knowing your partners’ status’ to build the practice of wanting to know a partner’s

HIV status before commencing a sexual relationship or deciding on prevention strategies in a relationship. A holistic approach should be followed for those students and staff who test positive, ensuring that there are links to diverse support systems including relationship and family support, as well as links to treatment where this is relevant.

- **ART based prevention strategies following rape:** Knowledge of post-exposure prophylaxis after rape and mother-to-child transmission of HIV should be promoted, as these are the two areas where there was unsatisfactory knowledge.
- **Sexual and reproductive health (SRH):** Education about and treatment of STIs should be regarded as a priority given the high levels of self-reported symptoms of STI.
- **Peer education:** Peer education programmes for members of staff should be instituted at HEIs that do not have them. Student peer education should be systematised and institutional support should be provided in those instances where peer education is externally funded and managed.
- **Addressing intergenerational sex:** It is important to promote understanding of the higher risk of having older partners among younger students and staff, and in particular, addressing the pattern of predation by older males who are not part of the campus community.
- **Concurrent sexual partners:** Avoiding concurrent or overlapping sexual partners should be given much closer attention in campus campaigns. The differences between male and female students with respect to norms and expectations around fidelity in relationships and casual sex are notable.
- **Staff and students:** Prevention strategies must be developed differentially for student and staff populations; and to address the fact that service staff are the most affected by HIV and AIDS and have largely been overlooked in campus prevention and care and support programmes. Staff unions and human resources departments must be drawn in on HIV prevention efforts and management.
- **Positive prevention:** The practice of HIV-positive people being involved in active prevention activities must be incorporated into prevention thinking, as there is almost no evidence of this on campuses.

- **Focusing education on higher-risk groups:** Special efforts must be made to ensure that female students, older students, and male members of the campus community are reached in HIV prevention efforts. Men who have sex with men (MSM) have higher prevalence compared to heterosexuals, while the HIV transmission risks for women who have sex with women (WSW) are seldom addressed. HEI management and other structures must be proactive to ensure that the rights of such groups are protected.
- **Students and staff with disabilities:** The qualitative research has illustrated that disabled students and staff are at a particular disadvantage in relation to HIV in that they may be more vulnerable to HIV as a product of their disabilities – both in forming of relationships and in relation to understanding of prevention practices.
- **Low prevalence institutions:** At low prevalence institutions, adopting the goal of ‘no new infections’ would be relevant as a focal strategy to sustain motivation around HIV prevention, which could be eroded by perceptions of low HIV-risk.

Reducing contextual risks

It is important to develop strategies on each campus to reduce susceptibility to risk at a systemic or environmental level. With information about contextual risks in this report, and more specifically in institutional reports, there is opportunity to adopt a much more focused and concerted approach to addressing contextual risks and reducing risky behaviour. This would need to include but not necessarily be limited to the following:

- **Addressing vulnerability to transactional sex:** Funders and HEIs should provide opportunities for students to supplement income through work on campus in order to reduce the temptation to engage in risky behaviour in order to subsist.
- **Addressing vulnerability of women:** It is notable that female members of the campus communities do not feel secure on campus and feel vulnerable to sexual harassment, and have the perception that making a complaint will have little effect. Efforts

to address these issues must be intensified through emphasising gender rights and mutual respect, and through invigorating disciplinary procedures. It should be a matter of priority to reinstate and invigorate campus disciplinary procedures.

- **Bridging programmes:** New and young students, particularly females, need more by way of induction and protection in the first six months at the HEI, since they lack the experience to make good and risk-aware decisions in the face of social and peer group pressure. It is important to extend bridging programmes for new students, which typically do not extend beyond the first week of university, noting the challenges that students have in adjusting to life in universities and the risks they face.
- **Residence programmes:** People who manage residences need to be aware of HIV and AIDS and how to counsel residents to avoid sexual risk-taking and support HIV-positive residents. When residence staff take an active interest in the personal lives of students they are more frequently sought after as sympathetic sources of support. The state of residences, and student accommodation more generally, must be regarded as posing a pressing need for improvement, in the interest of a more ordered and regulated social world where students are deliberately and effectively managing their lives.
- **Alcohol abuse:** Drinking behaviour at campus events should be monitored and steps taken to limit excesses. Regulations related to alcohol availability and consumption on campuses should be better enforced. In addition, campus liquor outlets should be more closely monitored by institutions and limited to particular nights and hours. There should be drives to curb high levels of student drinking by promoting non-alcohol oriented forms of recreation, such as is already happening on some campuses. This would ideally be part of student well-being programmes oriented on healthy lifestyle options and campus environments and activities supportive of the same.

HIV and AIDS care and support

All institutions should strive to become environments which are sensitive to and accommodating of the

needs of HIV-positive people. The following recommendations are made towards this end:

- **ART access:** Across the range of institutions there are difficulties in staff and students not on medical aid accessing ART, involving travelling considerable distances and enduring full-day visits to public health services on a monthly basis, that compromise their work and study. All HEIs must adopt measures to ensure that ART is available on or near campuses; and a sector treatment access project should be adopted as a priority by HESA, to support HEIs to achieve this.
- **Support to people with HIV and AIDS:** There is need to convene a working group on each campus to consider ways of achieving better support, and this should involve people living with HIV and AIDS.
- **Peer support:** It is important to establish a programme of peer support led by HIV-positive people. These have proved effective on some campuses such as the Health Promoter programme previously offered by DramAidE. People who test HIV positive should be encouraged to join existing support groups.
- **‘Buddy’ systems:** For those concerned about confidentiality, alternative forms of peer support should be considered, such as pairing ‘buddies’ together or even creating an anonymous moderated internet forum where HIV-positive people can share experiences.
- **Wellness programmes for HIV-positive people:** There is a need for HIV-positive people to begin to receive treatment before they become sick, especially in light of increasing evidence that effective treatment should start much earlier than previously thought. Concise information about how to manage HIV and AIDS related illness, nutrition, lifestyle, and opportunistic infections should be provided.

Institutional leadership

- **Institutional HIV and AIDS committees:** In each HEI there should be an established and functioning decision-making HIV and AIDS steering committee

or task team, and this committee should have influence and representation on each campus with clear lines of responsibility. HIV and AIDS committees should manage their responses to HIV and AIDS through annual workplans with clear targets and commitments, so that there can be greater accountability to performance.

- The fact that HEIs have largely failed to address HIV infection and social impacts in their most affected sub-populations is stark evidence that they have worked without access to critical information needed for dealing with HIV and AIDS. Committees at all institutions should convene processes for engaging with the findings of this report and the institution specific reports and reorienting their programmes of action accordingly.
- **Human resource departments:** Human resource departments which usually would be responsible for developing employee assistance programmes have largely been disengaged from matters related to HIV and AIDS, which have generally been the business of HIV and AIDS units and health services. It is necessary that human resource departments become directly engaged in HIV and AIDS response programmes, especially considering that on all campuses highest HIV prevalence is found in service staff.
- **Staff organisations:** Trade unions and staff bodies have played only a minor role in HIV and AIDS responses. These bodies should be actively involved in addressing HIV and AIDS, including identifying priority areas and strategies related to the level of the epidemic at the HEI. This should include engaging with human resource departments and management accountabilities in relation to HIV and AIDS response, and leadership ‘by example’ should be seen as an integral component of response.
- **Student leadership:** The importance of shaping attitudes and practices of future decision makers must be recognised, and, given the poor perceptions of student leadership involvement in HIV and AIDS, a sector wide initiative to promote student leadership is recommended. In particular, student leaders need to ‘lead by example’ in addressing HIV and AIDS, noting that the present

qualitative study has illustrated that in some instances student leaders may exploit their positions in ways that are contradictory in relation to HIV prevention.

- **University management.** Management should play a more prominent role than has been the case at some institutions and systems of accountability to addressing the epidemic should be considered including clear, measurable goals, the achievements of which should be assessed annually.
- **A model for future leaders:** A final but important reason for providing optimal HIV prevention and treatment services at HEIs, and for students in particular, is because it may help shape positive attitudes and practices towards managing HIV. Many students become future leaders in all spheres of life and it is reasonable to postulate that if their learning institutions have an open and caring approach to HIV and those living with the disease, then they in turn may internalise these values and promote a similar approach in the future.

Research and learning environments

- **Mobilising research:** There is little evidence, with one or two notable exceptions, that HEIs have used the opportunity of being research institutions to conduct strategy-relevant research on HIV and AIDS on their own campuses. A research agenda should be drafted for each institution and staff and research students should be encouraged to conduct policy and strategy-relevant research on HIV and AIDS issues.
- **Integrating HIV and AIDS into subject curricula:** Strong perceptions that HIV and AIDS have not been sufficiently incorporated into the academic curriculum suggest that there should be a review of what is being done and a project launched for addressing this need. Promising initiatives at other universities, especially the University of Pretoria and University of Cape Town, as well as a research project at Rhodes University focusing on HIV and AIDS in the curriculum, provide useful resources in developing this facet of HIV and AIDS response within HEIs.

Table 1 Key indicators: Students by region

Indicator (%)	Western Cape		Eastern Cape		Free State		Gauteng, North West & Limpopo		KwaZulu Natal		All	
	HIV+ %	95% CI	HIV+ %	95% CI	HIV+ %	95% CI	HIV+ %	95% CI	HIV+ %	95% CI	HIV+ %	95% CI
HIV prevalence												
HIV positive	1,1	[0,7–1,7]	6,4	[4,6–8,9]	5,3	[2,9–9,7]	2,2	[1,4–3,5]	6,1	[4,5–8,2]	3,4	[2,7–4,4]
Males HIV positive	0,6	[0,3–1,1]	3,1	[1,7–5,5]	4,1	[1,6–9,8]	1,1	[0,6–2,2]	4,1	[2,8–6,0]	2,0	[1,4–2,8]
Females HIV positive	1,5	[0,9–2,6]	9,1	[6,6–12,5]	6,4	[3,4–11,8]	3,1	[1,7–5,6]	7,8	[5,4–11,2]	4,7	[3,6–6,1]
18–19 years old HIV positive	0,3	[0,1–1,0]	0,8	[0,4–1,7]	0,8	[0,2–2,5]	0,7	[0,3–1,6]	1,2	[0,6–2,4]	0,7	[0,5–1,1]
Males: 18–19 years old HIV positive	0,2	[0,1–0,9]	0,0	na	0,0	na	0,1	[0,0–0,7]	0,7	[0,1–3,2]	0,2	[0,1–0,6]
Females: 18–19 years old HIV positive	0,3	[0,1–1,8]	1,4	[0,7–3,0]	1,3	[0,5–3,8]	1,2	[0,5–2,8]	1,5	[0,6–3,5]	1,1	[0,7–1,8]
Indicator (%)	Western Cape		Eastern Cape		Free State		Gauteng, North West & Limpopo		KwaZulu Natal		All	
	HIV %	95% CI	HIV %	95% CI	HIV %	95% CI	HIV %	95% CI	HIV %	95% CI	HIV %	95% CI
Sexual behaviour and practices												
Ever had sex	68	[63–71]	80	[78–83]	66	[56–75]	67	[63–71]	66	[62–70]	69	[66–71]
Condom use at last sex (of all who had sex in past year)	56	[52–59]	60	[56–63]	53	[42–63]	63	[59–67]	60	[57–63]	60	[57–62]
Sex in past year with more than one sexual partner (of all who had sex in last year)	30	[27–33]	41	[36–45]	34	[30–39]	37	[33–42]	37	[33–40]	36	[34–38]
Males: Sex in past month with more than one sexual partner (of all who had sex in last year)	11	[9–14]	25	[21–28]	18	[13–24]	20	[16–25]	22	[19–26]	19	[17–22]
Females: Sex in past month with more than one sexual partner (of all who had sex in last year)	5	[4–7]	6	[4–8]	6	[3–10]	6	[5–8]	5	[4–7]	6	[5–6]
Males: 18–24 years old, most recent partner 10+ years older (of all who had sex in past year)	4	[2–5]	7	[5–10]	5	[3–8]	6	[4–8]	7	[5–10]	6	[5–7]
Females: 18–24 years old, most recent partner 10+ years older (of all who had sex in past year)	4	[3–6]	10	[8–13]	8	[6–12]	8	[6–9]	7	[5–9]	7	[6–8]
Students whose most recent partner was a member of academic staff (of all who had sex in past year)	0,4	[0,1–1,5]	0,5	[0,2–0,9]	0,4	[0,1–2,5]	0,7	[0,3–1,8]	0,1	[0,0–0,6]	0,5	[0,3–0,9]
Students whose most recent partner was a member of administrative/service staff (of all who had sex in past year)	0,5	[0,2–1,1]	0,9	[0,3–2,2]	0,2	[0,1–0,9]	0,3	[0,2–0,6]	0,3	[0,1–0,5]	0,4	[0,3–0,6]

Indicator (%)	Western Cape		Eastern Cape		Free State		Gauteng, North West & Limpopo		KwaZulu Natal		All	
	HIV %	95% CI	HIV %	95% CI	HIV %	95% CI	HIV %	95% CI	HIV %	95% CI	HIV %	95% CI
HIV testing												
Ever had an HIV test	52	[48–56]	48	[45–51]	48	[39–57]	43	[39–47]	42	[38–45]	46	[43–48]
Ever had an HIV test at their institution	28	[24–32]	16	[14–18]	12	[9–15]	15	[12–17]	19	[16–22]	18	[16–20]
Had an HIV test in past year (of ever tested)	69	[64–74]	65	[61–69]	59	[43–74]	63	[59–67]	69	[65–73]	65	[63–68]
HIV and AIDS knowledge and perceptions												
A mother can pass HIV on to her baby through breastfeeding (True)	66	[62–70]	67	[63–70]	66	[59–73]	66	[63–69]	64	[61–67]	66	[64–68]
There are drugs available called antiretrovirals that can help people with HIV and AIDS live longer (True)	94	[93–95]	93	[91–95]	95	[92–96]	92	[90–93]	90	[87–92]	92	[92–93]
If a teacher has HIV but is not sick, she/he should be allowed to continue teaching (Agree/Agree strongly)	88	[86–89]	88	[86–90]	86	[80–91]	89	[87–90]	88	[85–90]	88	[87–89]
If I told my friends at this institution that I had HIV, most of them would support me (Agree/Agree strongly)	41	[37–44]	35	[33–38]	29	[24–35]	37	[34–40]	34	[32–37]	36	[35–38]
Activities and perceptions about HIV and AIDS response												
Attended a meeting or function about HIV and AIDS at the this institution in the past year	35	[31–40]	41	[36–47]	32	[24–41]	31	[28–35]	40	[36–45]	35	[32–38]
Know of a place at this institution where they could go for help and support if they were discovered to be HIV positive	63	[59–66]	64	[61–67]	55	[48–63]	61	[58–64]	67	[64–70]	62	[61–64]
Believe that management at this institution take HIV and AIDS seriously	66	[61–70]	52	[49–55]	38	[31–45]	48	[44–51]	50	[46–54]	52	[49–54]
Believe that student leaders at this institution take HIV and AIDS seriously	52	[48–55]	39	[36–43]	28	[23–33]	33	[31–36]	37	[34–40]	38	[36–40]

Table 2 Key indicators: Academic staff by region

Indicator (%)	Western Cape		Eastern Cape		Free State		Gauteng, North West & Limpopo		KwaZulu Natal		All	
	HIV + %	95% CI	HIV + %	95% CI	HIV + %	95% CI	HIV + %	95% CI	HIV + %	95% CI	HIV + %	95% CI
HIV prevalence												
HIV positive	0.2	[0.04–1.6]	3.3	[1.6–6.6]	0.0	na	1.2	[0.5–2.7]	2.4	[1.3–4.4]	1.5	[0.9–2.3]
Males HIV positive	0.4	[0.1–2.4]	4.0	[1.9–8.3]	0.0	na	0.9	[0.3–2.9]	2.0	[0.9–4.2]	1.5	[0.9–2.5]
Females HIV positive	0	na	2.3	[0.9–5.7]	0.0	na	1.5	[0.6–4.1]	3.0	[1.6–5.7]	1.4	[0.8–2.5]
Indicator (%)	Western Cape		Eastern Cape		Free State		Gauteng, North West & Limpopo		KwaZulu Natal		All	
	HIV %	95% CI	HIV %	95% CI	HIV %	95% CI	HIV %	95% CI	HIV %	95% CI	HIV %	95% CI
Sexual behaviour and practices												
Ever had sex	92	[89–94]	96	[93–97]	90	[82–95]	94	[91–96]	94	[90–96]	94	[92–95]
Condom use at last sex (of all who had sex in past year)	15	[12–19]	24	[17–33]	18	[13–26]	19	[15–25]	25	[20–30]	20	[17–23]
Sex in past year with more than one sexual partner (of all who had sex in last year)	8	[5–11]	15	[12–20]	12	[7–18]	9	[7–12]	13	[8–20]	11	[9–13]
Males: Sex in past month with more than one sexual partner (of all who had sex in last year)	3	[1–6]	8	[4–16]	10	[4–22]	6	[3–10]	4	[2–9]	5	[4–8]
Females: Sex in past month with more than one sexual partner (of all who had sex in last year)	1	[0–5]	0	na	2	[0–10]	0	na	0.8	[0–3]	0.5	[0–1]
Academic staff whose most recent partner was a student (of all who had sex in past year)	0.9	[0.4–2]	2	[0.7–4]	0	na	2	[1.4]	2	[0.5–5]	2	[1–2]
HIV testing												
Ever had an HIV test	66	[61–71]	70	[64–75]	73	[63–80]	72	[67–76]	78	[72–82]	71	[68–73]
Ever had an HIV test at their institution (of all)	0.12	[0–15]	9	[7–12]	9	[5–16]	13	[10–18]	14	[9–22]	12	[10–14]
Had an HIV test in past year (of ever tested)	40	[33–46]	43	[36–50]	36	[27–46]	39	[33–47]	44	[35–54]	41	[38–44]
HIV and AIDS knowledge and perceptions												
A mother can pass HIV on to her baby through breastfeeding (True)	65	[60–70]	69	[65–73]	71	[53–84]	71	[67–75]	65	[56–72]	68	[66–71]
There are drugs available called antiretrovirals that can help people with HIV and AIDS live longer (True)	97	[95–98]	96	[93–98]	96	[93–98]	96	[95–97]	95	[92–96]	96	[95–97]
If a teacher has HIV but is not sick, she/he should be allowed to continue teaching (Agree/Agree strongly)	93	[91–95]	91	[87–94]	89	[81–93]	90	[87–92]	91	[89–93]	91	[90–92]
If I told my friends at this institution that I had HIV, most of them would support me (Agree/Agree strongly)	51	[46–56]	45	[38–52]	33	[27–39]	38	[34–43]	41	[34–48]	43	[40–46]
Activities and perceptions about HIV and AIDS response												
Attended a meeting or function about HIV and AIDS at the this institution in the past year	25	[19–31]	41	[32–51]	21	[14–30]	22	[17–28]	40	[29–52]	29	[25–33]
Know of a place at this institution where they could go for help and support if they were discovered to be HIV positive	60	[53–67]	69	[65–73]	62	[54–69]	59	[53–65]	63	[51–74]	62	[59–65]
Believe that management at this institution take HIV and AIDS seriously	70	[64–76]	71	[65–77]	59	[49–68]	59	[53–65]	48	[42–54]	63	[59–67]
Believe that student leaders at this institution take HIV and AIDS seriously	59	[52–66]	61	[55–66]	50	[41–59]	49	[42–56]	39	[32–47]	53	[49–56]

Table 3 Key indicators: Administrative staff by region

Indicator (%)	Western Cape		Eastern Cape		Free State		Gauteng, North West & Limpopo		KwaZulu Natal		All	
	HIV +%	95% CI	HIV +%	95% CI	HIV +%	95% CI	HIV +%	95% CI	HIV +%	95% CI	HIV +%	95% CI
HIV prevalence												
HIV positive	0.9	[0.5–1.6]	6.0	[3.4–10.4]	2.9	[1.2–6.5]	4.3	[3.3–5.6]	9.2	[4.9–16.5]	4.4	[3.2–6.0]
Males HIV positive	0.6	[0.2–2.7]	7.0	[3.8–12.6]	3.9	[1.4–10.7]	7.3	[4.6–11.3]	11.9	[5.6–23.6]	6.2	[4.1–9.3]
Females HIV positive	1.0	[0.5–2.0]	5.4	[2.6–10.8]	1.9	[0.5–6.8]	2.4	[1.5–3.8]	6.7	[2.6–16.3]	3.1	[2.1–4.5]
Indicator (%)	Western Cape		Eastern Cape		Free State		Gauteng, North West & Limpopo		KwaZulu Natal		All	
	HIV %	95% CI	HIV %	95% CI	HIV %	95% CI	HIV %	95% CI	HIV %	95% CI	HIV %	95% CI
Sexual behaviour and practices												
Ever had sex	93	[91–94]	94	[91–95]	80	[72–86]	88	[85–90]	91	[85–95]	90	[88–91]
Condom use at last sex (of all who had sex in past year)	22	[18–26]	32	[21–46]	23	[17–31]	29	[25–34]	32	[26–38]	28	[25–31]
Sex in past year with more than one sexual partner (of all who had sex in last year)	11	[8–13]	18	[13–25]	15	[10–22]	19	[16–22]	20	[14–28]	17	[14–19]
Males: Sex in past month with more than one sexual partner (of all who had sex in last year)	7	[4–11]	19	[10–33]	10	[5–20]	18	[13–25]	9	[5–18]	13	[10–16]
Females: Sex in past month with more than one sexual partner (of all who had sex in last year)	2	[0.7–3.3]	2	[0.6–6.6]	0	na	4	[2.1–5.9]	5	[1.1–20.2]	3	[1.6–4.8]
Admin staff whose most recent partner was a student (of all who had sex in past year)	1	[0.5–2.0]	5	[2.4–10.4]	1	[0.3–5.4]	2	[1.0–4.7]	3	[1.2–6.2]	2	[1.6–3.2]
HIV testing												
Ever had an HIV test	68	[64–73]	67	[63–70]	53	[43–63]	59	[55–63]	61	[53–70]	63	[60–65]
Ever had an HIV test at their institution	24	[19–31]	18	[12–28]	10	[6–17]	16	[10–23]	21	[13–31]	19	[16–22]
Had an HIV test in past year (of ever tested)	45	[38–53]	52	[44–60]	46	[36–55]	44	[39–50]	53	[41–64]	47	[44–51]
HIV and AIDS knowledge and perceptions												
A mother can pass HIV on to her baby through breastfeeding (True)	56	[52–60]	66	[62–70]	57	[50–63]	62	[57–66]	50	[43–56]	58	[56–61]
There are drugs available called antiretrovirals that can help people with HIV and AIDS live longer (True)	93	[92–95]	93	[89–95]	90	[85–93]	90	[88–92]	88	[81–93]	91	[89–92]
If I told my friends at this institution that I had HIV, most of them would support me (Agree/Agree strongly)	37	[33–41]	46	[40–52]	29	[25–33]	34	[32–37]	38	[32–45]	37	[35–39]
Activities and perceptions about HIV and AIDS response												
Attended a meeting or function about HIV and AIDS at the this institution in the past year	28	[24–33]	42	[32–53]	30	[21–40]	28	[23–33]	20	[13–29]	28	[25–31]
Know of a place at this institution where they could go for help and support if they were discovered to be HIV positive	66	[60–71]	75	[69–81]	65	[56–73]	59	[54–64]	61	[52–71]	64	[60–67]
Believe that management at this institution take HIV and AIDS seriously	69	[65–73]	69	[66–72]	64	[56–71]	58	[54–62]	56	[46–67]	62	[59–65]

Table 4 Key indicators: Service staff by region

Indicator (%)		Western Cape		Eastern Cape		Free State		Gauteng, North West & Limpopo		KwaZulu Natal		All	
		HIV+%	95% CI	HIV+%	95% CI	HIV+%	95% CI	HIV+%	95% CI	HIV+%	95% CI	HIV+%	95% CI
HIV prevalence													
HIV positive		1.2	[0.4–3.4]	10.7	[7.4–15.2]	14.1	[9.7–19.9]	11.9	[9.1–15.4]	20.3	[13.4–29.4]	12.2	[9.9–14.9]
Males HIV positive		1.0	[0.1–7.4]	9.6	[6.2–14.7]	16.7	[8.0–31.8]	13.8	[10.5–17.9]	20.6	[13.4–30.5]	13.0	[9.9–17.0]
Females HIV positive		1.5	[0.5–4.0]	11.7	[6.9–19.2]	12.8	[9.3–17.3]	9.9	[6.5–14.9]	19.8	[9.2–37.6]	11.3	[8.4–15.1]
Indicator (%)		Western Cape		Eastern Cape		Free State		Gauteng, North West & Limpopo		KwaZulu Natal		All	
		HIV %	95% CI	HIV %	95% CI	HIV %	95% CI	HIV %	95% CI	HIV %	95% CI	HIV %	95% CI
Sexual behaviour and practices													
Ever had sex		83	[76–88]	90	[85–93]	83	[74–90]	84	[79–88]	92	[82–97]	86	[83–89]
Condom use at last sex (of all who had sex in past year)		28	[19–38]	46	[38–54]	38	[29–48]	39	[34–45]	38	[29–46]	39	[35–43]
Sex in past <u>year</u> with more than one sexual partner (of all who had sex in last year)		12	[7–20]	31	[17–49]	24	[16–36]	26	[22–32]	21	[12–34]	24	[21–28]
Males: Sex in past <u>month</u> with more than one sexual partner (of all who had sex in last year)		3	[1–13]	25	[13–40]	27	[9–56]	24	[20–30]	15	[9–24]	20	[16–24]
Females: Sex in past <u>month</u> with more than one sexual partner (of all who had sex in last year)		3	[0.6–11.2]	8	[3.0–18.9]	0	na	4	[2.2–8.0]	17	[5.1–43.9]	6	[3.5–11.5]
Service staff whose most recent partner was a student (of all who had sex in past year)		0	na	6	[2.2–13.2]	0	na	3	[1.5–6.9]	1	[0.3–4.9]	3	[1.6–4.6]
HIV testing													
Ever had an HIV test		65	[56–74]	48	[39–58]	46	[31–61]	50	[45–54]	54	[38–69]	52	[47–56]
Ever had an HIV test at their institution		20	[13–29]	23	[14–35]	18	[7–40]	13	[11–17]	16	[10–25]	17	[13–21]
Had an HIV test in past year (of ever tested)		39	[29–50]	61	[49–73]	45	[35–57]	55	[47–62]	64	[50–77]	55	[50–60]
HIV and AIDS knowledge and perceptions													
Know that HIV can be transmitted via breastfeeding		60	[52–67]	62	[54–69]	66	[60–72]	60	[55–65]	48	[34–63]	59	[54–63]
Know that ARVs can help people with HIV live longer		89	[82–94]	83	[71–91]	80	[67–88]	80	[74–84]	82	[70–89]	82	[78–85]
Believe that they would be supported by friends at the institution if they disclosed that they were HIV positive		41	[33–50]	57	[51–63]	39	[30–49]	38	[32–45]	31	[18–48]	41	[36–46]
Activities and perceptions about HIV and AIDS response													
Attended a meeting or function about HIV and AIDS at the this institution in the past year		31	[24–39]	46	[38–54]	39	[30–48]	33	[26–40]	25	[18–33]	34	[29–39]
Know of a place at this institution where they could go for help and support if they were discovered to be HIV positive		65	[56–73]	73	[64–80]	59	[50–68]	55	[47–62]	59	[47–70]	60	[55–65]
Believe that management at this institution take HIV and AIDS seriously		58	[48–66]	66	[61–70]	61	[47–74]	52	[47–56]	42	[35–51]	54	[49–58]

SECTION ONE

Introduction

BACKGROUND AND CONTEXT

HIV and AIDS is a severe national problem in South Africa with 5,2 million adults and children estimated to be living with HIV in 2008, representing 10,6 per cent of the total population of 47,8-million in 2008.⁴ Of the total population aged 15 years and older in 2007 (32,6 million), 5,4 million people were estimated to be living with HIV – a prevalence of 16,5%. This falls within the UNAIDS definition of a hyperendemic HIV epidemic.⁵

In the context of a high overall prevalence of HIV, all institutions, workplaces and communities in South Africa, including Higher Education Institutions (HEIs), are affected and impacted upon by HIV and AIDS. At HEIs, responses in the form of policies and programmes have been implemented over the past two decades to various extents at different institutions but the prevalence of HIV within institutions has not been known and this has constrained planning processes.

Higher Education South Africa (HESA) – a representative body of vice chancellors of the 23 public HEIs in South Africa – includes the Higher Education HIV and AIDS Programme (HEAIDS) which is involved in developing and strengthening the HIV and AIDS response. HEAIDS is an initiative of the Department of Higher Education and Training undertaken by HESA to reduce HIV prevalence among students

and staff and to mitigate impact of the disease with a view to maintaining core functions of teaching, training, research and community engagement. HEAIDS is funded by the European Union (EU) under the European Programme for Reconstruction and Development in terms of a partnership agreement with the Department.

The overall objective of the programme as described in the Financing Agreement between the European Commission and the South African Government is as follows:

To reduce the spread of HIV and AIDS in the higher education sector, to mitigate its impact through planning and capacity development and to manage the impact of the pandemic in a way that reflects the ethical, social, knowledge transmission and production responsibilities that are the mission of the Higher Education Institutions in society and South Africa.

In November 2007, a national survey was commissioned by HESA to establish the knowledge, attitudes, behaviours and practices (KABP) related to HIV and AIDS and to measure the HIV prevalence among staff and students.

The study also includes an institutional risk assessment, which examines the risk exposure of the HEI to the HIV epidemic based on the findings of the epidemiological component. The institutional risk

assessment identifies the sources of undesired outcomes from the epidemic and the consequences at the institutional level. The conceptual framework used in this report is based on and adjusted from Rausand's risk analysis procedure.⁶

The present survey was conducted at 21 of the 22 public higher education institutions providing contact education in South Africa. The Tshwane University of Technology was excluded as a product of unrest on campus at the time fieldwork was scheduled. The study includes HIV antibody testing, a questionnaire and a qualitative sub-study that together provide the first national baseline for HIV prevalence at HEIs, as well as a quantitative and qualitative understanding of KABP related to HIV and AIDS.

Data for the study was gathered between August 2008 and February 2009.

OBJECTIVES OF THE STUDY

The broad objectives of this study are to obtain HIV prevalence statistics and HIV behavioural response profiles of staff and students in higher education in South Africa.

The results should inform the sector response in a meaningful way, particularly with regard to policy, funding and implementation of prevention, treatment, care and support interventions.

The specific objectives are:

- To determine the prevalence and distribution of HIV among the staff and students at all 22 South African tertiary education institutions providing contact education, and the sector as a whole.
- To determine the levels of knowledge, attitudes, behaviours and practices (KABP) among the staff and student body.
- To investigate associations between HIV status and demographic and socio-behavioural factors.

LITERATURE REVIEW

Previous HIV prevalence studies at South African universities

There have not been many HIV prevalence studies among university populations in South Africa nor globally. Most studies have been small-scale and usually not published in the peer-reviewed literature. This makes it difficult to assess the validity of such studies and to know how representative the findings are as they pertain to an institution or to the sector more broadly.

Four studies exploring HIV prevalence among South African student populations were identified that included HIV testing. No studies on HIV prevalence among staff were found.

Two of the student studies were based on Voluntary Counselling and Testing (VCT) data obtained from the university clinic. A study from the late 1990s at the University of Durban-Westville⁷ (now part of the University of KwaZulu-Natal), drawing on clinic data reported an HIV prevalence of 26% for female students and 12% for male students between the ages of 20–24.

A study at the University of the Western Cape in 2000 analysed the data for students seeking VCT at the campus health clinic (70 students) and reported a prevalence among students of 10%.⁸ This study had no disaggregation by sex, age or race but the reported prevalence of 10% among young people is very similar to the Human Sciences Research Council (HSRC)⁹ HIV prevalence for 15–24 year olds (10,3%) and also a prevalence survey by the Reproductive Health Research Unit (RHRU)¹⁰ (10,2%).

Both these studies are difficult to interpret given the small, self-selecting samples and the likelihood that VCT data is not representative of the general student population.

Chetty cites a 1998 study at the University of Natal, Durban campus, now part of the University of KwaZulu-Natal, where, through anonymous testing, a

small sample of 240 people were tested for HIV. From this population it is suggested that there was a prevalence level of 13,4% for men and 16,3% for women.¹¹

It is unclear however whether the study cited by Chetty was a representative sample or drawn from a clinic population and the composition of students and staff is also not provided. Thus, comparison to other studies is not possible.

A larger scale study of HIV prevalence was completed at Rand Afrikaans University (RAU) – now University of Johannesburg – in 2000. In this sample, 1 217, or 7,7% of all students were tested, with the finding being an HIV prevalence of 1,1%. This was noted to be below what was expected based on extrapolation from other surveys of HIV prevalence in the general population and the three university level studies already discussed.¹²

From studies to date, there are reasons to believe that HIV prevalence among students might be lower than the prevalence among their age group in the general population.

First, when studies explore HIV prevalence by education levels, adults with post-secondary education tend to have lower HIV prevalence levels than those who do not.^{13,14,15} Second, the student population of RAU was predominantly White (70%), with African students only making up 19% of the population. The HIV prevalence studies that disaggregate data by race show that race – or specifically being African – is a major predictor of HIV prevalence.^{16,17,18} While the RAU study included an over-representation of African students (31% of all those sampled, compared to 19% of the population), education level may be an additional factor to be taken into account. Indeed, several studies^{19,20} point out that when race and education levels are combined, HIV prevalence among populations of post-secondary educated other races is low.

Knowledge and behaviour

With regard to knowledge on campuses, a study of students at the University of Cape Town found adequate

knowledge of HIV and AIDS transmission among students, but low knowledge of vertical transmission. There was also mention of being “bored with AIDS education”.²¹

A study of students at Pretoria Technikon, found that 60% of respondents used a condom at last sex, with the majority, 87%, indicating that it was not difficult to introduce condoms into their relationship.²²

A mixed methods study conducted among students at three universities in KwaZulu-Natal found that over three quarters had sex in the past year and that around two fifths had more than one partner during that period. Around a quarter of students were noted to have not used condoms at last sex. Government-distributed free condoms were considered to be of poor quality and ‘unsafe’ in comparison to brands that could be purchased.²³

Institutional responses to HIV and AIDS

Compared to other sectors of society, the higher education sector in Africa has been somewhat slow in responding to HIV and AIDS. The first documented evidence of a coordinated sectoral response dates back to 1999 when the Association of Commonwealth Universities (ACU) in partnership with the University of Natal in South Africa held a symposium entitled “The Social Demographic Impact of HIV/AIDS: Commonwealth Universities respond.”²⁴ A second conference held in November 1999 at Technikon South Africa brought together student services managers and student leaders to debate institutional responses and identify HIV and AIDS issues that students faced.²⁵ Two years later, these conferences were followed by a workshop attended by senior representatives from 10 universities in southern and eastern Africa,²⁶ several of whom reported some progress towards mainstreaming HIV and AIDS at their institutions.

It was, however, largely in the wake of the 2000 Chetty report (commissioned by SAUVCA, the South African Universities Vice-chancellors Association) and the 2001 Kelly report (the first collection of case studies on the impact of HIV and AIDS on universities

in Africa) that two dedicated programmes to respond to the pandemic were launched: one conducted by the Association of African Universities (AAU) in Ghana, and HEAIDS in South Africa.²⁷ In South Africa it was hoped that such programmes would help to redress the “skewed distribution of AIDS services and resources across the country. This maldistribution affects historically African institutions disproportionately”.²⁸

With the AAU and HEAIDS initiatives, HIV and AIDS became solidly situated on Africa’s higher education agenda. Between 2001 and 2004, higher education responses in Africa were still uneven with some universities lagging behind, while others had made significant advances in policy development, HIV and AIDS-related health support for students and staff, advocacy, mainstreaming and curricular integration.²⁹

Factors motivating HEI responses

The steady growth of response now seen in the sector is largely due to greater access to funding. The AAU disburses international funding to 15 countries in west, east, central and southern Africa via its programme, ‘African Universities Responding to HIV/AIDS’.³⁰ In South Africa, which is not partner to the AAU programme, international and national funding is channelled via the Department of Higher Education and Training and HESA into their HEAIDS project. EU funding amounting to €20 million was awarded to the current phase of HEAIDS, which ended in 2009. In 2008, R59 million in grants reached 21 South African HEIs via HEAIDS.³¹ While donor funding has enabled the sector to move forward, potential dependence on such funding is alluded to in a Swedish International Development Agency (Sida)³² evaluation of HEI responses in four countries of the AAU’s regional programme. Relevant to the South African context, as echoed in local experience,³³ is the recommendation that universities need to commit a portion of their own budget and resources to coordinate and sustain HIV and AIDS response.³⁴

Compelling reasons why funding is being allocated to enable a higher education response, and why HEIs

should respond, are well documented,³⁵ so only a few are noted here. The sheer scale of the pandemic “threatens the supply, demand and quality of education over the period that Africa is striving to achieve Education for All (EFA) by the year 2015.”³⁶ Attrition of staff and students entering the tertiary system impacts negatively on the sector’s core business: teaching, research, learning and community engagement.³⁷ Moreover, the loss of qualified graduates impacts on national and regional development, diminishing “private and social returns to investment in higher education.”³⁸

Financial and developmental issues aside, HIV and AIDS is a pressing humanitarian issue in which the higher education system can and should “play an important role in shaping attitudes and practices of future decision-makers and in so doing, further prevent the spread of HIV.”³⁹ It is acknowledged that young people engage in risky behaviours including sexual behaviours, as well as alcohol and drug consumption and this occurs at HEIs, but as centres of learning and socialisation, HEIs are also fertile contexts for counteracting risk among students. HEIs also provide a framework for addressing health needs of staff. In so doing, HEI responses fall into seven broad categories: (1) Policy responses; (2) Risk management; (3) Leadership and advocacy; (4) Prevention training and support; (5) Community outreach; (6) Teaching, research and sharing knowledge; and, (7) Health services related to prevention and care.

Leadership

In terms of national leadership, the HEAIDS programme is pivotal to the higher education sector response. Additionally, numerous studies note that it is at the institutional level that leadership becomes the crucial factor for determining and enabling an effective response,⁴⁰ with much more being achieved on campuses where chief executives spearhead the drive against HIV and AIDS.⁴¹ Relevant policies are increasingly in place, and the HEAIDS drive to align them is gaining momentum. However, policies can fall unhappily short of their goals without leaders who ensure that focus, budget, and human and other resources are pledged to bring policy to fruition.⁴²

One HEAIDS objective is to see decision-making bodies in the form of HIV and AIDS steering committees or task teams established at South African HEIs. In 2005 HEAIDS reported that 90% of HEIs had these in place.⁴³ It should be noted here and below that this study was conducted prior to the restructuring of the higher education sector, when there were 35 public higher education institutions.

Another rung of institutional structures is HIV and AIDS coordination units. A 2005 HEAIDS report (prior to the restructuring of the sector) noted that 43% of HEIs had units in place⁴⁴, particularly in the larger universities.⁴⁵ Where HIV and AIDS units are established, programs were found to be better organised and positive impacts were more evidently felt and seen.⁴⁶ Units not only improved the coordination and sustainability of responses but also ensured greater and more systematic monitoring and accountability.⁴⁷ This is pertinent, given that institutional responses in some of the key areas – particularly advocacy and curricular interventions – tend to be ad hoc and driven by activist groups and interested individuals.⁴⁸

It is important also, to ensure that response is even. For example, as Kelly points out, “responding to the epidemic in non-academic staff and general workers can be critical for the smooth operations and well-being of the university.”⁴⁹ A common theme in the literature is that HEIs tend to focus on academic staff and students but attend far less to the HIV and AIDS-related health and support needs of non-academic staff, particularly those at the service level.⁵⁰

Advocacy

Campus-wide events such as sports, drama, orientation lectures, dances, music concerts and launches are used to greater or lesser extent by all HEIs to raise awareness of HIV and AIDS issues, develop a sense of belonging to an institution, and to build solidarity in the face of HIV and AIDS and other pressing social issues.⁵¹ In some cases activities spill over into residences⁵² where there is a greater likelihood of reaching a ‘captive audience’. Most HEIs also embark on intensive short-term awareness and testing drives, often coinciding with

national HIV and AIDS events, but these activities tend to communicate ‘blanket messages’ instead of being more finely targeted to the student or staff populations. In all, participation in campus-wide HIV and AIDS events and activities is noted to be low.⁵³

Activities planned and implemented with student involvement are found to be most effective because students are closely in touch with and appeal to the preferences and lifestyles of their peers,⁵⁴ and it appears that the delivery of HIV and AIDS programmes in HEIs depends largely on peer educators.⁵⁵

Peer training and support

By 2005, 71% of HEIs had student peer education programmes⁵⁶ and over time these have been increasing in number.⁵⁷ Mostly delivered using models that combine peer education with peer counselling, these programmes offer several advantages: “Peer counsellors are likely to be present where they are needed most, and to be available nearly 24 hours a day. In addition, the action of peer counselling serves as an important role model and also impacts positively on those who do the counselling as well as on those who are counselled.”⁵⁸

DramAidE runs a highly active and visible peer-education project called the Health Promoters Project, which has been in operation in higher education since 2002, and was initially piloted in the late 1990s as part of the Department of Health’s Beyond Awareness Campaign.⁵⁹ The mainstay of the project is a cohort of young people living openly and positively with HIV who operate on HEI campuses as Health Promoters (HPs). Some of their activities are: to facilitate support groups, run education programmes, promote VCT, assist in community outreach, promote edutainment, and provide individual support to staff and students.⁶⁰ The project promotes a layered strategy for prevention using dialogue-orientated approaches to help students “personalise the risk of HIV infection, address stigma and deal more effectively with their personal health and relationship problems.”⁶¹ A recent evaluation found that the project added value to extant campus programmes, raised students’ awareness of new programmes, and decreased stigma.⁶²

Staff training and support

By 2005, 26% of HEIs had a staff workplace programme and 71% reported that general training for employees was in place.⁶³ However, Human Resources (HR) managers appear to be only distantly aware of and involved in HIV and AIDS activities on campuses, resulting in inadequate emphasis on HIV and AIDS issues in the workplace and a reliance on medical aid schemes to provide care and support⁶⁴. Weak or poorly managed relationships with the Department of Labour potentially impact on skills planning and development.⁶⁵

As noted, the literature illustrates a focus on academic staff and students, but HIV and AIDS-related education and support for non-academic and service staff is a neglected area of higher education response. But as at 2005, only 20% of HEIs had a staff peer-education programme, while only 37% provided training for wardens of residences.⁶⁶ Unions serving academic and non-academic staff focus on funeral support, but do not prioritise HIV and AIDS, either as a threat to their members or to their own organisational viability.⁶⁷ Service staff are particularly in need of access to prevention, awareness, counselling, testing, and treatment services.⁶⁸ It is not only a matter of need – their exclusion from the mainstream of HEI response also means that they have few avenues whereby they can contribute formally to an institution's response.⁶⁹

Community outreach

Community outreach is one of the pillars of higher education. It is central to innovative action in local communities. Peer education programmes often reach beyond HEIs into the secondary school system.⁷⁰ Service learning programmes – particularly those associated with the Health Sciences, Law, Social Work and Psychology – continue to establish and maintain strong links with local and national NGOs, as well as DoH clinics and hospitals.⁷¹

Curricular interventions

A 2004 audit found that the majority of African universities had not integrated or infused HIV and AIDS

into their curricula despite this having been identified as a priority intervention area.⁷² Since then, substantial donor funding has been harnessed to drive curricular responses, prompting the remark that African universities have clearly “discovered a new niche market in HIV and AIDS”.⁷³

Curricular integration follows two broad patterns involving core and infusion approaches. Core offerings are predominantly HIV and AIDS-focused and include single courses and modules, or programmes that lead to a professional qualification in HIV and AIDS. One example is a compulsory core module for professional teacher education programmes currently being piloted by HEAIDS. A much debated issue is the cost-benefit of diverting academic credits from existing courses and allocating them to HIV and AIDS courses/modules.⁷⁴ Alternatively, an infusion approach seeks to integrate HIV and AIDS content and issues more widely throughout university curricula.

A common constraint voiced by academics is that students are overexposed to HIV and AIDS information and thus resist – or at least are disinterested in – having HIV and AIDS addressed in their university courses.⁷⁵ But this is not always the case. It is not unusual for students in the (human) biological, environmental and health sciences to engage enthusiastically in HIV and AIDS-focused work.⁷⁶ Furthermore, academics teaching in the fields of education and the humanities report that when students are presented with HIV and AIDS content and issues which have direct relevance to what they are learning, or when students have some choice – as in the case with electives – apathy is not necessarily their dominant reaction.⁷⁷ The key, it seems, is not inculcating HIV and AIDS knowledge in the everyday sense, but in getting students to engage critically with HIV and AIDS content and issues as these apply to what they are studying, and thus help them become more sophisticated problem solvers.⁷⁸

The resistance of academics themselves to addressing HIV and AIDS in their teaching is mentioned often in the literature.⁷⁹ This appears to be less the case when HIV and AIDS content and issues are relevant

to academic areas of teaching or expertise and with the knowledge students need to acquire in any given course of study.⁸⁰ Academics do not always feel properly equipped emotionally to include HIV and AIDS in their teaching and some report not being well prepared enough in terms of HIV and AIDS knowledge and expertise.⁸¹ Many teachers are also hard pressed for time. To offset difficulties such as these, some universities extend help to academics via dedicated HIV and AIDS units. In addition, interdisciplinary collaboration can be cultivated so as to benefit knowledge exchange – particularly between the ‘hard’ sciences and the ‘social’ sciences – so that students are exposed to bio-medical as well as social aspects of HIV and AIDS.⁸²

Research

In terms of knowledge production, as at 2005, 40% of HEIs had research units focusing on HIV and AIDS.⁸³ HEAIDS is also funding a number of research students at the Master’s level. Nonetheless bursaries and scholarships of any kind are usually awarded to more outstanding student candidates, while those who are less academically proficient – usually local students – opt to study part-time because they must earn education and living costs.⁸⁴

Sharing knowledge

Comprehensive overviews of best practices in HEAIDS-funded curricular infusion projects in South Africa have not yet been collected into a single publication but are featured on separate university websites and a limited number of journal articles. Thus far, the van Wyk and Pieterse report commissioned by the Southern African Regional Universities Association (SARUA)⁸⁵ offers the widest collection of curricular interventions in South African universities.

Although dissemination of knowledge – in the form of research reports, peer-reviewed articles and best practices – has increased over time, the production of HIV and AIDS knowledge is uneven across institutions in the sector. A similar finding is reported in the Sida evaluation of HEIs elsewhere in Africa.⁸⁶

The 2006 UCT (internal) symposium, the 2007 University of Pretoria (open) conference, and the 2009 HEAIDS (open) symposium at the University of Fort Hare were exceptions in as far as they specifically addressed HIV and AIDS in higher education.⁸⁷ It seems to be more often the case that higher education conferences host few HIV and AIDS focused papers, while HIV and AIDS conferences have relatively few HE-focused papers.

Health services: prevention and care

Between 2002 and 2004, 66% of HEIs had on-site clinic or health services.⁸⁸ In relation to utilisation, however, stigma is often cited as a reason why campus health services are, in some cases, under utilised.⁸⁹

The main prevention interventions offered by health services at HEIs are condom distribution, VCT, and treatment for Sexually Transmitted Infections (STIs) and Opportunistic Infections (OIs). A 2005 HEAIDS report notes that 71% of institutions provide prevention services: 86% distribute condoms on campus, 69% have established free VCT services, 32% have Post-exposure Prophylaxis (PEP) for staff, 40% have PEP for students and 77% offer treatment for STIs.⁹⁰

Elsewhere in Africa it is found that universities benefit from forging strategic alliances with local Non-governmental Organisations (NGOs) and service providers to implement awareness, prevention and advocacy programmes.⁹¹ The application to South Africa is demonstrated in a study of VCT services in HEIs, which found that its logical strategic partner – the Department of Health (DoH) – does not always regard higher education health services (with the exception of condom supply and VCT) as an aspect of public health, which in some provinces constrains access to family planning, treatment for sexually transmitted infections (STIs) and AIDS-related illnesses.⁹² Within HEIs themselves, lack of communication between management and health services, and management’s failure to properly acknowledge and support health services may potentially give rise to tensions that hamper an effective health services response.⁹³

Condom distribution

By 2005, 86% of HEIs in South Africa were distributing condoms supplied by the DoH, and in addition, 34% were distributing condoms from other sources.⁹⁴ A situational analysis of HEI responses in the Eastern Cape found that over 70% of participants said condoms were freely available on their campuses, while 29% did not feel that condom distribution was a strength in their institutions.⁹⁵ Another analysis found that some institutions struggled to access free condoms supplied by the DoH – particularly those located further away from urban areas and where there are few local NGOs actively addressing HIV and AIDS.⁹⁶

Within universities, condoms are distributed on campus – most often in bathrooms and at residences.⁹⁷ There is little reference in the literature to the provision of female condoms. Some studies report that distribution is not as regular as it should be and dispensers are sometimes empty⁹⁸ – and this appears to occur irrespective of whether or not distribution is handled internally or outsourced.⁹⁹

There is some evidence of resistance to condom distribution on campuses with the argument being raised that they potentially promote promiscuity.¹⁰⁰

Post-exposure prophylaxis for rape

In relation to providing PEP for rape, as at 2005, 32% of HEIs provided PEP for staff and 40% had PEP for students.¹⁰¹ This is noted to be low relative to the incidence of sexual and other violence in South Africa.¹⁰²

Voluntary counselling and testing

By 2005, 74% of HEIs had established Voluntary Counselling and Testing (VCT) services, with 69% of these providing VCT for free.¹⁰³ This report presents a findings from a study conducted on VCT practices in HEIs across the country.

Most VCT sites use rapid HIV test-kits. There is good uptake of VCT after pre-test counselling – often provided by volunteers and Psychology students – and

almost all students return for their test results. Most VCT sites have strong referral systems and have good working relationships with community-based organisations such as LifeLine, Hospice and local VCT providers. Gaps in services include a lack of support for caregivers who often suffer burn-out; ongoing training for on-site staff is not always in place; and permanent positions need to be created where VCT counselling is given mainly by volunteers.

It is noted that the student population using campus-based VCT services are female, but also include low HIV-risk students. Where VCT is available to staff, it was found that the preference was to go to external service providers.¹⁰⁴

It was found that the provision of immune boosters encourages students to return to VCT sites for testing counselling and support.¹⁰⁵ In the social domain, DramAidE health promoters, who act as role models for living positively and provide support for people testing positive, were found to complement and strengthen campus VCT services.¹⁰⁶

Support for HIV-positive students and staff

For HIV-positive staff and students, 71% of HEIs offer some form of treatment care and support – either on site or via referral. Of these HEIs, 80% offer psychosocial support for students and staff, 20% make palliative care available for staff, 24% make palliative care available for students, 40% offer treatment of opportunistic infections for students, and 36% offer treatment of opportunistic infections for staff.¹⁰⁷ A country-wide study found that the demand for treatment of opportunistic infections in campuses of some provinces had increased dramatically.¹⁰⁸

Between 2002 and 2004, 12% of HEIs were supplying antiretroviral drugs (ARVs) for staff and students¹⁰⁹ but since the national roll-out of ART, this has mostly fallen away, while the literature suggests that counselling and referral services appear to be the only aspect of Prevention of Mother to Child Transmission (PMTCT) provided by HEIs to pregnant students and staff.

Other aspects of response

Sexual harassment, bribery, coercion and assault are acknowledged as serious problems in African HEIs.¹¹⁰ Handbooks on sexual harassment,¹¹¹ life-skills training manuals,¹¹² and student safety guidelines can be found on several university websites. However, no publication was found – other than a policy-level document¹¹³ – that gathers together information scattered widely throughout the literature on HEIs as HIV and AIDS safe, or unsafe, environments.

In contrast to the focus on academic staff and students, and as noted further above, the literature shows that little emphasis is given to the needs and concerns of non-academic staff, particularly service-level staff, and the likely prevalence of HIV among them.

These gaps in information detract from the capacity of universities to better understand HIV and AIDS in the sector and constrain their ability to tailor responses in a more strategic, precisely targeted and coordinated manner.

SECTION TWO

Study Methodology

OVERALL METHODOLOGY AND RATIONALE

This study comprises a cross-sectional HIV prevalence, knowledge, attitudes, behaviour and practice (KABP) survey and qualitative study among staff and contact students at 21 HEIs across South Africa. The study design is an “unlinked, anonymous HIV survey with informed consent”¹¹⁴ and the HIV results of the study cannot be linked to individual participants.

Participation in the study was voluntary. It was conducted anonymously and no identifying information such as individual identity numbers for students, academic staff, administrative or service staff were obtained from any participant. For statistical analysis purposes, the KABP survey data was linked to the HIV test data via a unique barcode. Participation in qualitative focus groups discussions and interviews was also voluntary and no individual identifying information is reported.

An objective related to overall sampling was to recruit at least 25 000 participants in the final sample for both students and staff. Data collection for the study occurred between August 2008 and February 2009.

STUDY POPULATION

The study population within the tertiary education sector could be divided into two main groups: students and staff.

Students

In this study, students were defined as those registered for one or more courses during the second semester or term of 2008, or during the first three months of study in 2009. Students of all nationalities were considered. For all institutions only contact, non-distance students were included in the study population. A contact student was defined as a student who attended classes/lectures/tutorials or laboratories at a defined campus of the institution for the purpose of learning. The rationale for the focus on contact students was primarily related to the likelihood that distance learning students would be logistically difficult and time-consuming to access as they live and study off-campus and could thus not readily be reached by the survey teams, and additionally, response rates were expected to be considerably lower. Furthermore, they are not typically reached by on-campus HIV and AIDS programmes.

The distinction between undergraduate and postgraduate students was important. Undergraduate students included those studying for degrees, diploma's and certificates. Postgraduate students were defined as those studying for honours, masters or other postgraduate degrees, diplomas or certificates, or for doctoral studies.

Staff

For the purposes of this study, staff were defined as personnel employed by the HEI and working on the

university campus. This included both permanent and shorter-term contract staff. The personnel categories utilised were based on the classification used in the Higher Education Management and Information System (HEMIS) and included academic (or “instructional”), administrative (executive/admin/management), specialised/support personnel, technical, non-professional administrators, and crafts/trades. Employees of sub-contracted companies and other entities were excluded, as were temporary staff not based or working on campus.

Subcategories of staff were defined as follows:

- **Academic staff:** A person employed by the HEI and working for a faculty on the university campus and defined by HEMIS as “instructional” staff. This included both permanent and shorter-term contract staff but excluded temporary staff not based or working on campus.
- **Administrative staff:** A person employed by the HEI and working on the university campus in an administrative capacity as defined by HEMIS and are typically from the executive, administration or management sectors. This included both permanent and shorter-term contract staff.
- **Service staff:** A person employed by the HEI and working on the university campus and defined by HEMIS as being specialised/support personnel, technical, non-professional administrator and crafts/trades workers. Employees of sub-contracted companies and other entities were excluded.

QUANTITATIVE STUDY SAMPLE SIZES

According to the HEMIS 2006 database (and after excluding distance students), contact students constitute approximately 92,5% of the sum of the HEI population, and staff the remaining 7,5%. If students and staff were sampled proportionately to these percentages, the sample size for staff would be relatively small and the HIV prevalence estimates would have large confidence intervals. In order to improve reliability of the data, staff were over-sampled relative to population sizes, with approximately 20% of all staff

being sampled and approximately 4% of all contact students being sampled.

Universities were grouped into large, medium, and small categories based upon numbers of staff and students so as to allocate sample sizes among the universities, as indicated in Tables 5 and 6 below. The HEMIS database 2006 was used to estimate the student and staff populations. Actual numbers sampled from each HEI varied from these target numbers, depending upon requirements identified during the execution of fieldwork.

Students

A sample of 15 728 students (3,4% of the population) were allocated as shown in Table 5. Final numbers per HEI varied somewhat from these numbers, depending upon requirements identified during the execution of fieldwork.

Table 5 Allocation of student samples by HEI size categories with approximate confidence intervals

Students	Sampling Fraction (%)	Sample / institution n	95% CI HIV est = 10%
Small institutions (10)*	4	562	6,8–13,2
Medium institutions (8)*	3	737	7,3–12,7
Large institutions (4)*	1	1 053	7,7–12,3
Total	3	715	9,4–10,6

* Small: < 20 000 students; Medium: 21 000 to 35 000 students; Large: > 35 000 students

The minimum sample size per institution would be 562 in small institutions; 737 in medium institutions and 1 053 in large institutions. With a sample of this size, the national HIV prevalence could be estimated to within 0,6%; for small institutions to within 5,2% and for medium and large institutions to within 2,3% assuming an HIV prevalence of 10%, a design effect of 1,5 (given the cluster design) and a confidence level of 95%. Table 6 illustrates the number of students that were expected to be sampled from each HEI, along with the student populations.

Table 6 Allocation of student samples by institution

Institution	Contact	MOS	Sample
Small			
Rhodes University	6 045	1	562
University of Fort Hare	7 175	1	562
Mangosuthu University of Technology	9 901	1	562
Central University of Technology, Free State	10 114	1	562
University of Zululand	10 398	1	562
University of Venda	10 497	1	562
University of the Western Cape	14 463	1	562
Vaal University of Technology	17 408	1	562
University of Limpopo	17 579	1	562
Nelson Mandela Metropolitan University	19 928	1	562
Medium			
Stellenbosch University	21 465	2	787
University of Cape Town	21 764	2	787
University of the Free State	22 337	2	787
Durban University of Technology	22 779	2	787
University of the Witwatersrand	23 626	2	787
Walter Sisulu University	23 871	2	787
North-West University	27 092	2	787
Cape Peninsula University of Technology	28 889	2	787
Large			
University of KwaZulu-Natal	35 208	3	1 125
University of Pretoria	38 531	3	1 125
University of Johannesburg	43 182	3	1 125
Tshwane University of Technology	49 705	3	1 125

Staff

According to HEMIS 2006, there are a total of 39 154 permanent and contracted staff at tertiary institutions. Institutions vary in staff complement from 455 at Mangosuthu University of Technology to 4 284 at the University of KwaZulu-Natal. The institutions were thus stratified by size into three categories and sampled proportionately. Staff were further stratified by job category: academic; administrative and service staff.

A sample of 8 786 staff were to be allocated as in Table 7.

The sample size per institution was 162 in small institutions (52 academic; 110 admin/service); 344 in medium institutions (127 academic; 217 admin/service) and 674 in large institutions (236 academic; 438 admin/service). Table 8 gives breakdowns by HEI along with staff populations.

APPROACH TO SAMPLING OF STRATA AND CLUSTERS FOR THE QUANTITATIVE STUDY

The 21 universities that were part of the study were considered as strata, which were divided into two sub-populations of students and staff.

In cases of multiple campuses within an HEI, if student populations were expected to be substantially different at different campuses and if the campuses were sufficiently large to justify presence of a sampling team for a full day, the campuses were separated into strata and departments randomly selected within each campus stratum. For HEIs composed of multiple previously independent campuses, with each campus too small to justify the presence of a sampling team for a full day, approximately three campuses were randomly sampled.

Sampling within student stratum

Faculties were combined into groups that were treated as strata. These groupings were intended to facilitate data collection. The faculty groups were based on HEMIS categories, with adjustment to facilitate efficient sampling. The groupings used were: (1) natural sciences, engineering, and agricultural sciences; (2) arts, education, and theology; (3) law and economics/management.

A list of departments and numbers of students registered for courses offered by each department was obtained from the registrar at each HEI. One department was randomly selected from each faculty stratum

Table 7 Allocation of staff samples by HEI size categories with approximate confidence intervals

Staff	Sampling Fraction	Institution n	Academic n	95% CI HIV = 3%*	Admin/Service n	95% CI HIV = 12,7%*
Small Institutions (6)	21%	162	52	0–9,1	110	4,5–20,8
Medium Institutions (9)	20%	344	127	0–6,9	217	6,9–18,5
Large institutions (7)	18%	674	236	0,2–5,8	438	8,7–16,7
Total	20%	8 786	3 107	2,2–3,8	5 679	11,6–13,8

Small: < 1 000 total staff; Medium: 1 000 to 2 500 staff and Large: > 25 000 staff Academic HIV prevalence estimated from National Survey results for college degree or above, Admin/Service from National Survey results for high school completion.

Table 8 Allocation of staff samples by institution

Institution	Population Size			Sample Size		
	Academic	Admin/Service	Total	Total	Academic	Admin/Service
Small						
Mangosuthu University of Technology	146	323	469	159	52	110
University of Zululand	219	461	690	162	52	110
Central University of Technology, Free State	203	514	717	162	52	110
University of Fort Hare	230	487	717	162	52	110
University of Venda	268	484	752	162	52	110
Vaal University of Technology	312	611	923	162	52	110
Medium						
University of the Western Cape	465	734	1 199	344	127	217
Rhodes University	306	941	1 247	344	127	217
Walter Sisulu University	531	707	1 238	344	127	217
Durban University of Technology	537	747	1 284	344	127	217
Nelson Mandela Metropolitan University	557	868	1 425	344	127	217
Cape Peninsula University of Technology	621	925	1 546	344	127	217
University of the Free State	620	1 017	1 637	344	127	217
University of Limpopo	804	1 304	2 108	344	127	217
North-West University	769	1 525	2 294	344	127	217
Large						
Stellenbosch University	818	1 692	2 510	674	236	438
University of Cape Town	829	1 765	2 594	674	236	438
Tshwane University of Technology	880	1 749	2 629	674	236	438
University of the Witwatersrand	952	1 785	2 737	674	236	438
University of Johannesburg	917	1 955	2 872	674	236	438
University of Pretoria	1 575	1 898	3 473	674	236	438
University of KwaZulu-Natal	1 448	2 655	4 103	674	236	438

(with probability of selection proportional to department size). For each selected department, courses offered by the department were randomly ordered, with larger classes having greater probability of being near the beginning of the list and smaller classes having greater probability of being near the end. Classes were oversampled in order to ensure that the minimum sample size would be obtained at each institution.

Information was communicated to heads of the Faculties and Departments selected urging them to encourage all academic staff whose class had been selected to assist with the survey. Samples were drawn from lectures or tutorials and practical sessions. Although lecturers were briefed about selection of a lecture/tutorial/practical session, students were not made aware of this selection, and were only advised at the start of the session.

At the selected lecture/tutorial/practical sessions, less than 50 students were typically selected.

Sampling within the staff stratum

For the selection of other academic staff, departments from the faculty used for the student sample were ordered by size and clusters of up to 25 staff members were selected from each cluster. However, field work processes had to address the situation that academic staff tended to either be in their offices or teaching and did not often assemble in groups.

A variety of strategies were taken to draw groups of academic staff together. In some instances, the Dean or Head of Department was prepared to call together a special meeting of staff at a time and venue. Where it was not possible to call special meetings, other possible meetings were identified. Permission was then obtained from the Dean or Head of Department to access staff during the meeting.

In the case of administrative and service staff, departments were selected proportional to size. It was generally possible to arrange meetings of administrative and service staff through relevant managers for the purposes of the study.

STANDARDISED APPROACHES TO COLLECTING DATA

Selection of participants

Larger sampled groups were typically encountered among students. At each session, the procedure aimed for approximately 50 sampled respondents at the venue. When numbers were more than 50, a 'down-sampling process' using a randomisation method was adapted. Methods for doing this included using cards, or dividing the room into rows.

In the card method, ordinary playing cards were used. Marked cards corresponding to the number of sampled respondents required for participation were counted out, to which were added unmarked cards to make up the total number of people in the room. The cards were shuffled and handed out face down, and then students were asked to indicate whether they had marked or unmarked cards. Those with marked cards were asked to stay, and those without marked cards were asked to leave. An alternative method was used when groups were too large and it would be too time-consuming to conduct the card exercise. This involved counting approximate numbers of people in each row, and then selecting alternate rows from both the back and front of the room until the desired participant count was reached.

In some instances where larger groups of fieldwork staff were available or longer time periods were available, numbers greater than 50 could be sampled.

Questionnaire and DBS administration

At each site of data collection, approximately 50 minutes was allocated for venue preparation, selection of participants, briefing of the participants, completion of consent forms, and implementing the administration of questionnaires and blood spots. Questionnaires were designed to be completed in approximately 30 minutes.

Questionnaires were designed to be self-completed by participants and comprised 10 pages of questions

with multiple choice options that were marked using pencils provided. Questionnaires were available in English and Afrikaans with separate translations available if this was required.

Three separate questionnaires were available, depending on the participant category: student, academic staff, or admin/service staff. The questionnaires differed on a small introductory subset of questions related to participant institutional data – for example, course of study versus teaching field versus administrative or service job focal area. The remainder of the questions related to KABP and were common to all questionnaires.

Given that the population at HEIs is overall literate, self-completion of questionnaires was possible in nearly all instances. The exceptions included some staff who were less literate, or some of those who were not sufficiently conversant in English or Afrikaans. Assistance was provided to such participants by field workers.

At the outset of each session, the study was introduced over 10–15 minutes. This introduction included reference to the motivation for the study, commissioning entities, sample selection processes, voluntary participation, consent procedures, questionnaire completion processes and DBS collection. The availability of separate free voluntary counselling and testing (VCT) for participants who wished to know their HIV status was also highlighted.

The introduction was followed by ‘down-sampling’ of the group if necessary. Selected participants who wished to opt out were free to leave at any point.

Participants were advised of the confidential nature of the questionnaires and the importance of being seated in such a way that their answers could not be seen by other participants. Training of field staff also included reference to the importance of absolute confidentiality of participant responses. For example, when completed questionnaires were handed in, they were stacked to ensure that anonymity was preserved.

The intention of the self-completion process was to ensure that sensitive questions about sexual behaviour

could be answered confidentially. It is believed that participants are more likely to give true answers to sensitive questions when they complete questionnaires themselves compared to when the questionnaire is administered by another person.¹¹⁵ Additionally, the self-completion process allowed for large groups of participants to be managed in the context of a limited timeframe for execution of the fieldwork component of the study.

The relevant questionnaires along with pencils and erasers were made available to participants to aid completion. Consent forms for the questionnaire were provided for signature and collected at the outset of the questionnaire completion process. Following completion, a consent form for DBS was provided for signature and a tear-off barcode from the questionnaire was provided to the nurses conducting DBS collection to allow for later linking with questionnaire data.

DBS collection kits were designed for single use and included a sterile retractable lancet, alcohol swab, cotton wool ball, and a Guthrie card. Five blood spots were gathered from a single fingertip onto the Guthrie card. The card, a separator sheet and the barcode were then sealed in a Ziploc bag. Consent forms were kept separately. Medical waste disposal buckets were available for disposal of all used items including lancets, swabs and cotton wool.

Participants completing the study questionnaire were provided with supermarket vouchers to the value of R30 for their time. It was also possible for participants to elect to donate the voucher to a charity nominated by the institution.

QUANTITATIVE DATA COLLATION

Collation and checking of numbers of consent forms, questionnaires and DBS was conducted routinely at the end of each session. Data tracking forms were then appended to packages of questionnaires and DBS samples. Questionnaires and DBS samples were stored securely at venues at the institution and

dispatched on a weekly basis to the Centre for AIDS Development, Research and Evaluation (CADRE) offices in Johannesburg

Once questionnaires and DBS samples arrived in Johannesburg, receipt logs were completed indicating the date received and identifying the institution from which the questionnaires and samples were obtained. Barcodes were scanned and total questionnaires and samples received determined. These were reviewed against tracking forms.

Batches of questionnaires and DBS were then dispatched for processing by CSX in Johannesburg where scanning utilising an optical system that automatically generated coded data was utilised.

DBS were sent on to Global Laboratory in Durban, which is SANAS accredited, where the following South African National Accreditation System (SANAS) accredited tests were conducted:

- Screening assay (Vironostika Uniform II Plus O – semi-automated A1)
- Second test (Siemens Bayer HIV ½ fully automated chemiluminescent assay A2)
- Third test (Elecys 2010 – Roche Diagnostics for indeterminants A3)

Five percent of samples were retested as an internal quality control using A2 tests.

Emerging data was then sent to the senior statistician for collation, checking and cleaning and preparation of the final dataset.

THE QUALITATIVE STUDY

The qualitative study was designed to understand contextual factors underpinning the risk of HIV infection at HEIs, as well as factors related to the effectiveness of prevention, support, treatment and impact mitigation efforts. It was also intended that this component of the study would capture perspectives of members of each HEI on existing responses

and perspectives on what further responses were needed.

Two focus group discussions consisting of eight members were planned for each campus, although ten participants were targeted to allow for possible last-minute unavailability or non-attendance. Recruitment was conducted through designated campus contacts that were selected in consultation with campus HIV and AIDS authorities.

The range of participants in discussion groups were planned to include male and female undergraduate students, postgraduate students, service staff members, academic and administrative staff members, and people living openly with HIV. Attempts were made to include participants from a broad range of campus sectors and sub-communities.

In some instances, additional discussion groups were planned when difficulties in recruitment or non-attendance resulted in inadequate representation of important sectors of the university community. This was particularly important in the case of HIV-positive students and staff. In most cases those living with HIV were reluctant to join general discussion groups and were accommodated in smaller groups attended by other HIV-positive people. At some HEIs with multiple campuses, additional focus group discussions and interviews were conducted to cover the variation in contexts across campuses – for example, urban and rural campuses.

In addition to focus group discussions, individual interviews were conducted with key informants to further understand unique features of HIV risk and response on campus, or to develop understanding of campus communities in preparation for focus group recruitment.

‘Special issues’ focus group discussions were also conducted with the following orientations: 1) HIV risk and responses among men who have sex with men; 2) alcohol and ‘party drug’ use as a context of risk; and 3) drug addiction and HIV risk. Selection of HEIs for this component of the study was done with a view to maximising coverage given the limitation of only six groups. Initial focus groups in these focal areas proved

insufficient for providing an adequate understanding of the issues and further focus groups and individual interviews were incorporated to supplement understanding of key issues.

Discussion group protocols were prepared for the study covering a set of questions and follow-up questions. This was done after reviewing the literature on what is known about factors underpinning HIV infection in HEIs and responses to HIV and AIDS in the institutions, and after consideration of information being collected through the quantitative questionnaire. Discussion groups were conducted by two members of the study team, lasting on average 1,5 hours. These were audio-recorded. Ethics protocols as agreed with the ethics authority of each institution were closely adhered to.

The findings are utilised to complement the quantitative component of this report, and were also used to inform conclusions and recommendations.

Summary of qualitative data collection

In total, 67 focus groups were convened. Of these, 12 discussions focused on contextual factors that affect risk of HIV infection. Eleven groups addressed aspects of institutional response and the effectiveness of HIV prevention and support initiatives on campus. Twenty-five focus groups explored issues related to both HIV-risk and institutional response – this was done when focus groups were conducted on different university campuses or when separate discussions were held with exclusive groups of students or staff (as was the case at University of the Western Cape, Rhodes University, University of the Free State, University of Pretoria, and Nelson Mandela Metropolitan University).

On campuses where there were active HIV support groups or support networks, 11 focus group discussions were conducted exclusively for HIV-positive people, to provide a forum for people to speak candidly about their experiences and to probe deeper into issues related to institutional care and support. These were held at: University of Fort Hare (Alice), Rhodes University, Nelson Mandela Metropolitan University, University of the Free State (Qwaqwa), University of

Table 9 Summary of qualitative data collection

Types of focus groups	Number of groups
'Drivers of HIV risk'	12
'HEI response management'	11
Combined discussion of 'risk' and 'response'	25
HIV risk and responses among people living with HIV	11
HIV risk and responses among men who have sex with men	3 – UZ, UP (2 groups – students, staff)
Alcohol and 'party drug' use as context for risk	2 – UL, Rhodes
Drug addiction and HIV risk	3 – UWC (2 groups), Wits
Total number of focus group discussions	67
Total number of individuals interviewed	60

Zululand, Durban University of Technology (Biko), University of the Western Cape, University of Pretoria (Mamelodi), University of Venda, Vaal University of Technology, and North-West University (Mmbatho). A further eight individual interviews were conducted to accommodate those who were not comfortable disclosing their HIV status to others, including other HIV-positive people. In total, there were 107 HIV-positive participants included in the study and each institution in the sample was represented.

Three discussion groups with men who have sex with men were held, one at University of Zululand and two at the University of Pretoria (with separate groups for staff and students). In addition, contacts were made with nine individuals (four males, five females) involved in student associations for lesbian and gay people following a national meeting of student associations concerned with lesbian and gay interests in higher education. This provided a much broader insight into issues facing lesbian and gay people in higher education than was gained in the initial focus groups.

Specific issues related to alcohol consumption and party drug use were explored in discussions at Rhodes and the University of Limpopo (Turfloop campus).

Drug addiction and sexual risk were explored with former and current hard drug users at the University

of the Witwatersrand and with two groups of students at the University of the Western Cape.

To make up for gaps in the qualitative data and facilitate focus group recruitment, additional interviews were conducted involving 60 individuals from different institutions.

Table 10 Summary of qualitative study participants

	Number
Focus group participation: Students	
Undergraduate students	185
Postgraduate students	33
Unspecified students	100
Total number of students in focus groups	318
Focus group participation: Staff	
Administrative and service staff	178
Academic staff	26
Unspecified staff	18
Total number of staff in focus groups	222
Focus group participants: Gender	
Females	310
Males	230
Total number of focus group participants	540
Interviewees: Gender	
Females	46
Males	14
Total number of interviewees	60
Known participation of people living with HIV	
HIV-positive students	58
HIV-positive staff	49
Total number of HIV-positive participants	107

Limitations of qualitative data

The opportunity to comprehensively understand drivers of HIV infection and responses to HIV and AIDS at institutional level in all 21 HEIs was limited. Although focus group discussions were held on 33 different

campuses, it was certainly not possible in each HEI to account for multiple campuses, given that some institutions have five or more satellite campuses. In such instances, attempts were made to enquire about other such contexts, to include representatives from other campuses in the main focus group when possible, and to speak to staff on main campuses who could provide some insight into those (although this opportunity was limited). In general, it was not possible to ascertain the situation at more remote campuses.

It should be emphasised that the qualitative data collected was intended to complement the quantitative survey study and to assist in interpreting the findings and as such, the qualitative study does not represent a stand-alone investigation of each HEI. Instead, the qualitative methodology was designed to provide an understanding of the main dynamics and aspects of HIV and AIDS in relation to respective HEIs from the point of view of participants. Other studies have been commissioned to take stock of the responses of HEIs and the sector to the HIV and AIDS epidemic more systematically.

The four primary socio-demographic categories in this study are the four categories of members of campus communities (students, academics, administrative staff and service staff). The size of the student community is much larger than the other three categories combined. The tendency for HIV and AIDS responses to have been focused on young people's risk, the fact that most people living on campuses are students, and that the primary focus of campus activity is to educate students, meant that the focus in discussion groups tended to concern mainly student issues and focus group membership largely consisted of students (318 students participated in focus groups as compared to 222 staff). Difficulties in recruiting staff members and non-attendance by staff members in many instances, amplified the bias, which was particularly reflected in a lesser representation of academic staff.

Strong attempts were made to ensure maximum variation in the participants recruited to focus groups. The parameters of variation were different across campuses and had to be closely discussed with campus

recruiters. In each instance, participation and the process of recruitment were discussed with recruiters over the course of several weeks leading to the research. In order to ensure as broad a perspective of campus HIV and AIDS dynamics as possible, attempts were made to include participants who had multiple affiliations (e.g. a residence sub-warden who is also a PhD student and a temporary lecturer; or a student who is HIV-positive and a peer educator). This was inevitably limited given the multiple distinctions (e.g. place of residence, courses of study, age, cultural and socio-economic variants, etc.).

Notwithstanding these limitations, it is felt that the data represents a comprehensive picture of HIV and AIDS dynamics in higher education in South Africa at the sector level. An important measure of the adequacy of qualitative data collection is the level of data saturation, which refers to the degree to which the researcher is hearing or seeing new information. It was notable that after analysis of qualitative data from less than 10 campuses it became evident that the key themes of the analysis could be determined. However, how these manifested at campus level proved important in understanding drivers of HIV infection and responses to HIV and AIDS at specific HEIs or campuses.

Qualitative data analysis and reporting

All qualitative data was transcribed from audio recordings. The qualitative study team read all transcripts and developed a coding framework for data categorisation and analysis. The transcripts were then coded and analysed using NVivo software for qualitative data analysis. Codes were added to and refined as the analysis developed.

Key excerpts were extracted for each code and summary descriptions were written. These were oriented on the factors that mediated the conditions and circumstances related to each of the three main categories of analysis: 1) drivers of HIV infection and prevention responses; 2) orientation of campus responses to HIV-positive people; and 3) institutional responses to HIV and AIDS. The orientation of the interpretive analysis

was to understand the factors mediating the various circumstances described. Description of these forms the basis of the qualitative results and these range from socio-economic and cultural factors, to living arrangements on campuses and individual dispositions and circumstances.

The analysis aimed to identify the key drivers of infection in the higher education sector, the factors that reduce the risks of HIV infection, those factors associated with a positive and affirming response to people who are HIV-positive and those factors that make a difference with respect to the kinds of campus responses that are found. The match between these factors and HIV and AIDS response efforts on campus, as described by respondents, provided understanding of the sensitivity of campus efforts to existing responses. Analysis was initially conducted for each institution and following this, key themes for the sector were identified.

In addition, during the analysis, attention was paid to identifying those programmes which appeared to be well-matched to prevailing needs and circumstances.

In comparing qualitative and quantitative findings, some discrepancies were evident between the prevalence of behaviours or attitudes as reflected in the survey and reports by focus group participants and interviewees. There are many reasons why this may happen,¹¹⁶ and it is likely that in some cases qualitative data provides a truer picture (e.g. in the case of HIV and AIDS stigma where the nuances of experienced stigma tend not to be detected by standard self-reported attitude questions). On the other hand, qualitative data that points to extreme or exceptional circumstances can take on undue significance, considering the relatively rare occurrence of the phenomenon. The analytic process involved balancing insights derived from both sources of data, while also recognising their limitations.

ETHICS APPROVAL PROCESS

Careful consideration was given to the ethical issues related to conducting this study. The key ethical

Table 11 Total staff and student numbers, HEMIS 2006, and sample size

Province	Contact students			Permanent staff		
	Population	Sample	%	Population	Sample	%
All	419 447	15 291	4	37 130	8 112	22
Western Cape	85 948	2 923	3	8 221	2 036	25
Eastern Cape	56 661	2 473	4	4 811	1 194	25
Free State	33 213	1 349	4	2 537	506	20
Gauteng, North West and Limpopo	173 986	5 510	3	14 788	3 034	21
KwaZulu Natal	69 639	3 036	4	6 773	1 342	20

issues were identified during the design phase of the study and discussed in detail in the study protocol. These are described in detail in the Appendices volume.

Ethical approval to conduct this study was sought and received from all 20 HEIs that have constituted Ethics Committees. The two institutions that did not have their own Ethics Committees – Central University of Technology (CUT) and Vaal University of Technology (VUT), accepted the rulings from Ethics Committees from neighbouring HEIs, i.e. University of the Free State (UFS) and the University of Witwatersrand (Wits) respectively.

The full protocol, all questionnaires, all consent forms, all participant information documents and examples of any marketing materials that were to be used, were submitted to each Ethics Committee. In addition, any required institution-specific ethics application forms were completed.

Relatively minor changes to the protocol were requested by some of the Ethics Committees but no fundamental changes were requested, with the exception of the University of Cape Town (UCT). The changes requested by UCT, which specifically related to data collection methodology, were duly made to the protocol and submitted to and approved by the UCT Ethics Committee. However, implementation of the study using this revised data collection approach did not achieve adequate uptake of participants. The data collection process was suspended,

and the study resumed using the original protocol. It should be noted that the original changes requested by UCT were not primarily for ethical reasons but an attempt to limit disruption of classes to a minimum. In other words, both methods of data collection were ethically sound.

PARTICIPATION

Table 11 shows the total population of permanent staff and contact students at the institutions by region, as derived from HEMIS (2006), and the number and percentage included in the planned sample. Note that this excludes UNISA because that HEI did not participate and TUT because the study could not be implemented there.

The demographic profile of the *realised* sample is described in Table 12. This is the sample that comprised the final database. Note that the final, usable sample of 23 375 was 28 participants short of the targeted number (Table 11) of 23 403 (reached by adding contact students and permanent staff).

Table 13 shows the participation response rates by region. The denominator for calculating response rates was defined as the number of eligible students and staff who were present at the testing venues. Two response rates were calculated, i.e. those who provided completed questionnaires and then those who completed questionnaires as well as provided dry blood spots (DBS). Around nine out of ten students

Table 12 Demographic description of the sampled population

Indicator (%)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KZN		All	
	n	%	n	%	n	%	n	%	n	%	n	%
All	5 363	21	3 730	13	1 568	8	8 635	42	4 079	17	23 375	100
Sex												
Male	2 073	48	1 526	45	570	45	3 671	47	1 909	49	9 749	47
Female	3 290	52	2 204	55	998	55	4 964	53	2 170	51	13 626	53
Age group												
18–24	3 471	82	2 216	74	1 001	83	5 875	84	2 919	81	15 482	82
25+	1 892	18	1 514	26	567	17	2 760	16	1 160	19	7 893	18
Single age												
18	472	10	195	6	77	5	664	11	359	12	1 767	10
19	916	21	389	13	183	15	1 299	18	541	16	3 328	17
20	523	11	436	14	240	22	1 218	19	585	17	3 002	17
>20	3 452	59	2 710	67	1 068	57	5 454	51	2 594	56	15 278	56
Race												
African	1 601	29	2 837	78	1 134	60	6 074	59	3 073	67	14 719	57
Coloured	1 894	32	198	6	63	6	241	4	76	2	967	10
Indian	170	3	61	1	4	0	184	3	548	18	2 472	5
White	1 698	36	634	15	367	33	2 136	34	382	13	5 217	28
Marital status												
Married	1 055	9	721	9	293	8	1 427	8	517	7	4 013	8
Not married	4 308	91	3 009	91	1 275	92	7 208	92	3 562	93	19 362	92
Parenting status												
Have children	1 376	13	1 456	30	499	16	2 436	13	1 166	18	6 933	16
No children	3 987	87	2 274	70	1 069	84	6 199	87	2 913	82	16 442	84
Faculty grouping (students and academic staff)												
Business	1 353	26	672	27	432	24	2 345	22	646	23	5 448	24
Humanities	1 164	32	962	47	333	34	2 024	40	1 438	30	5 921	37
Sciences	1 792	42	1 238	26	467	42	2 526	38	1 452	47	7 475	39
Students and academic staff												
Undergraduate	3 955	91	2 652	94	1 190	96	6 194	88	3 276	93	17 267	91
Postgraduate	338	9	256	6	42	4	696	12	258	7	1 590	9
Residence												
Campus residence	1 340	30	1 587	49	310	23	2 571	32	1 460	33	7 268	33
Non-campus residence	4 023	70	2 143	51	1 258	77	6 064	68	2 619	67	16 107	67
Absenteeism in past month												
Missed <3 days	4 916	92	3 351	90	1 429	92	7 841	93	3 684	91	21 221	92
Missed 3+ days	447	8	379	10	139	8	794	7	395	9	2 154	8
Medical Aid												
Yes	3 587	63	1 863	38	773	51	4 850	58	1 845	46	12 918	54
No	1 867	37	795	62	795	49	3 785	42	2 234	54	10 457	46

Table 13 Response rates at the institutions by region¹¹⁷

	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	n	%	N	%	n	%	n	%	N	%	n	%
Number present at testing venue	6 621	100	4 420	100	2 017	100	11 424	100	5 374	100	29 856	100
% completed questionnaire	6 104	92,2	4 090	92,5	1 822	90,3	9 767	85,5	5 006	93,2	26 789	89,7
% completed questionnaire and DBS	5 436	82,1	3 758	85,0	1 586	78,6	8 724	76,4	4 101	76,3	23 605	79,1

and staff who were present at each venue participated in the questionnaire component of the survey. This was highest in KZN at 93,2% and lowest in GAU/LP/NW at 85,5%. Around eight out of ten completed both questionnaires and provided DBS – this being highest in EC at 85,0% and lowest in KZN at 76,3%.

Note that the total number that answered questionnaires and provided specimens was 23 605 which is higher than the number included in the final database (23 375, see Table 13). This is because a total of 230 participants had to be dropped from the final database because of a substantial amount of missing data from their questionnaires.

Students did not know that their particular class had been selected prior to arrival and so it was unlikely that students did not come to the lecture venues based on concerns about the study. In other words, non-participation bias is not likely to have occurred prior to arrival at the lecture venue. The only possible exception to this is that students who were HIV positive were potentially more likely to be absent because of illness so this may have biased the results marginally.

Participation in the survey was not readily measured among staff and among academic staff in particular. In some cases, special meetings had to be called so that staff could be brought together in a venue where the study could be administered. In some cases the staff knew the purpose of the meeting and so a proportion may have stayed away for reasons linked to the study. Unfortunately, this number cannot be

determined, nor can it be determined whether those that did not participate were systematically different from those that did participate. It is a study short-coming that estimates on non-participation for staff cannot be provided but the situation was beyond the control of the researchers.

Table 14 shows, by race, sex, age group and institution, the proportion of all participants who completed a questionnaire and provided a DBS versus those that only completed questionnaires but refused to provide DBS. In general, most participants did provide DBS although a lower percentage of Indians were prepared to give blood specimens partly due to the fact that the study was conducted over the Ramadan period during which Muslims are fasting and are not permitted to provide blood specimens. It was noted by the research staff that during this time the Muslim students would walk out en masse after completing the questionnaires. Refusal to provide a specimen was not associated with either sex or age group.

Participation did not vary substantially between institutions except for UKZN where a lower proportion of students (67%) provided DBS.

DATA ANALYSIS

Weighting

The sampling methodology was designed to be self-weighting with the probability of selection proportional to size of department and class within department.

Table 14 Number and proportion of participants who provided a questionnaire and a DBS

	Students			Academic Staff			Administrative/Service Staff		
	Questionnaires	Questionnaires and DBS	Response rate %	Questionnaires	Questionnaires and DBS	Response rate %	Questionnaires	Questionnaires and DBS	Response rate %
Total	19 724	17 062	87	2 094	1 880	90	4 810	4 433	92
Race									
African	13 221	11 774	89	597	519	87	2 597	2 428	93
Other	6 503	5 288	81	1 497	1 361	91	2 213	2 005	91
White	3 732	3 112	83	1 184	1 082	91	1 120	1 020	91
Indian	981	616	63	158	134	85	260	218	84
Coloured	1 790	1 560	87	155	145	94	833	767	92
Sex									
Male	8 280	7 061	85	1 033	911	88	1 946	1 769	91
Female	11 444	10 001	87	1 061	969	91	2 864	2 664	93
Age group									
18–24	17 570	15 135	86	56	48	86	321	299	93
25–34	1 806	1 617	90	501	451	90	1 064	965	91
35+	350	310	89	1 537	1 381	90	3 425	3 169	93
Institution									
CPUT	1 054	914	87	58	53	91	185	153	83
CUT	501	450	90	45	38	84	81	80	99
DUT	965	876	91	104	90	87	205	170	83
MUT	804	686	85	26	24	92	82	72	88
NMMU	657	551	84	73	64	88	234	215	92
NWU	859	759	88	90	84	93	186	177	95
RU	531	512	96	101	98	97	312	294	94
SU	809	789	98	194	187	96	348	333	96
UCT	1 303	1 005	77	120	113	94	454	420	93
UFH	519	415	80	57	49	86	91	89	98
UFS	814	659	81	92	85	92	267	256	96
UJ	1 659	1 443	87	166	145	87	342	327	96
UKZN	1 593	1 072	67	127	116	91	141	129	91
UL	1 045	963	92	30	24	80	217	200	92
UP	951	756	79	165	137	83	411	348	85
UV	758	747	99	50	45	9	157	152	97
UWC	1 299	1 130	87	125	118	94	159	148	93
UZ	679	623	92	65	49	75	193	172	89
VUT	830	783	94	44	42	95	93	90	97
WITS	968	816	84	172	151	88	484	446	92
WSU	1 126	1 113	99	190	168	88	168	162	96

Table 15 Comparison of HEMIS database with the weighted study database

	Students						Academic Staff						Admin/Service Staff					
	HEMIS		Database				HEMIS		Database				HEMIS		Database			
	n	%	n	unwgt %	n	wgt %	n	%	n	unwgt %	n	wgt %	n	%	n	unwgt %	n	wgt %
Total	41 9447		17 062		419 441		13 435		1 880		13 435		23 695		4 433		23 695	
Sex																		
Male	196 470	47	7 061	41	196 468	47	7 777	58	911	48	7 777	58	10 306	43	1 777	40	10 306	43
Female	222 971	53	10 001	59	222 973	53	5 658	42	969	52	5 658	42	13 389	57	2 656	60	13 389	57
Race																		
African	244 299	59	11 774	69	244 298	58	3 230	24	519	28	3 230	24	10 838	46	2 426	55	10 838	46
Coloured	31 593	8	1 560	9	45 244	11	1 238	9	134	7	997	7	1 698	7	217	5	2 023	9
Indian	26 525	6	616	4	18 715	4	1 072	8	145	8	1 088	8	3 867	16	767	17	4 397	19
White	115 158	28	3 112	18	111 184	27	7 895	59	1 082	58	8 120	60	7 292	31	1 023	23	6 437	27
Age group																		
18–19	105 805	25	5 062	30	105 774	25	4 897	36	760	40	4 897	36	9 315	39	1 852	42	9 315	39
20–25	207 844	50	10 594	62	208 090	50	8 538	64	1 120	60	8 538	64	14 380	61	2 581	58	14 380	61
25+	105 794	25	1 406	8	105 576	25												
Institution																		
CPUT	28 500	7	914	5	28 500	7	657	5	53	3	371	3	956	4	153	3	814	3
CUT	10 001	2	450	3	10 001	2	224	2	38	2	266	2	462	2	80	2	499	2
DUT	21 870	5	876	5	21 870	5	574	4	90	5	680	5	773	3	170	4	656	3
MUT	9 397	2	686	4	9 397	2	132	1	24	1	172	1	293	1	72	2	312	1
NMMU	19 367	5	551	3	19 367	5	528	4	64	3	487	4	961	4	215	5	957	4
NWU	26 597	6	759	4	26 597	6	889	7	84	4	622	5	1 850	8	177	4	1 765	7
RU	5 894	1	512	3	5 894	1	320	2	98	5	743	6	971	4	294	7	977	4
SU	22 567	5	789	5	22 567	5	840	6	187	10	1 404	10	1 687	7	333	8	1 756	7
UCT	20 538	5	1 005	6	20 534	5	889	7	113	6	850	6	1 912	8	420	9	1 849	8
UFH	8 281	2	415	2	8 281	2	292	2	49	3	354	3	477	2	89	2	470	2
UFS	40 245	10	1 443	8	40 245	10	708	5	85	5	579	4	1 143	5	256	6	1 205	5
UJ	28 716	7	1 072	6	28 716	7	871	6	145	8	1 062	8	1 592	7	327	7	1 597	7
UKZN	16 668	4	963	6	16 668	4	1 531	11	116	6	830	6	2 731	12	129	3	2 787	12
UL	38 359	9	756	4	38 359	9	534	4	24	1	143	1	1 205	5	200	5	1 251	5
UP	23 212	6	659	4	23 212	6	1 619	12	137	7	984	7	18 93	8	348	8	1 934	8
UV	14 343	3	1 130	7	14 343	3	278	2	45	2	266	2	464	2	152	3	403	2
UWC	11 624	3	747	4	11 624	3	516	4	118	6	891	7	764	3	148	3	797	3
UZ	24 469	6	816	5	24 467	6	231	2	49	3	319	2	508	2	172	4	478	2
VUT	9 656	2	623	4	9 656	2	287	2	42	2	279	2	615	3	90	2	659	3
WITS	16 024	4	783	5	16 024	4	989	7	151	8	1 090	8	1 702	7	446	10	1 761	7
WSU	23 119	6	1 113	7	23 119	6	526	4	168	9	1 044	8	736	3	162	4	770	3

However due to differential response rates and difficulties in accessing selected classes and departments, the demographic characteristics did not always reflect that of an institution's population. A weighting procedure was therefore undertaken during analysis to ensure that the results of the survey would be comparable to data from the HEMIS 2007 database and could therefore be generalised to the sector. Weights were calculated separately for students, academic staff and non-academic staff.

The number of students by age, race and sex was available from the HEMIS Database. Tshwane University of Technology and the University of South Africa were excluded from the weighting process as were students doing their qualification by distance mode only.

The categories used in the weighting process were: age groups (< 20, 20–24, 25+); sex (male, female) and race (Africa, Other). For each of the 12 categories [3 (age groups) X 2 (sex groups) X 2 race groups] = 12], the total number of students was extracted from the HEMIS database and divided by the number in the corresponding category from the survey dataset. The individual student weight was assigned according to the age/sex/race category of each student.

Staff weights were calculated in a similar manner but because of the smaller sample size eight weighting categories were used: age (<40, ≥40); sex (male, female) and race (African, other). For academic staff, the number of permanent staff in the personnel category “Instructional/research professionals” for each weighting category was extracted from the HEMIS database and divided by the number in the corresponding category from the survey dataset. The individual academic weight was then assigned according to the age/sex/race category of the academic staff member. The non-academic staff weight was calculated in exactly the same way except that permanent staff in personnel categories other than instructional were used.

This process produced a final sample representative of the student and staff population at Higher Educational Institutions.

Quantitative data analysis

Questionnaire and HIV databases were received in Excel, converted to STATA and merged. Frequencies were checked for missing data and miscodes. Where data was missing or inconsistent, the values were imputed from other data in the database. Contextual checks were made on behaviour questions to avoid contradictory responses.

Imputation is the substitution of some value for a missing data point. The extent of missing data was minimal given the size of the survey. Between 1,2% and 2,6% of respondents were missing age or sex or race. The level of missing data increased for the more sensitive questions: 9% of respondents did not answer the question on “engaging in anal sex”; 6% the question on “drunk in the past month” and 4% the question on “sexual experience”. For purposes of weighting and to standardise the denominators across all the tables, all missing data was estimated.

Where ever possible, missing data was imputed from a respondent's answers to related questions. Responses were also checked for consistency as part of the process. Where missing data could not be estimated from other questions, the median was used for continuous data such as age and the most common response for categorical data. Both the original and the imputed data values are included in the dataset.

All subsequent tables were based on weighted data on respondents answering a questionnaire with a valid HIV test result. Quantitative data was compiled into tables based on analysis criteria determined by the study team. Knowledge and attitude scores were developed and tested using Cronbach's alpha > 0,8 as a measure of acceptability.

In order to reflect geographic differences, the results are presented for five regions as well as for the country as a whole.

All national HIV prevalence studies have shown that in South Africa the prevalence of HIV varies geographically. Prevalence levels tend to be higher

in the eastern provinces and lower towards the west. This epidemiological variation was the main factor used to group HEIs into different regions. The 2008 HSRC HIV seroprevalence survey¹¹⁸ found that HIV prevalence was highest in KwaZulu-Natal and Mpumalanga, where HIV prevalence was over 23% for the population aged 15–49. This is followed by a group of five provinces – Free State, North West, Gauteng, Eastern Cape and Limpopo – which have a prevalence ranging from 16,7%–20,4%. The remaining provinces, Northern Cape and Western Cape, have HIV prevalence levels of less than 9%.

Taking into account the provincial distribution of HEIs in relation to prevalence, the following groupings were made:

- Region 1: WC – CPUT; SU; UCT; UWC
- Region 2: EC – NMMU; RU; UFH; WSU
- Region 3: FS – CUT; UFS
- Region 4: GAU/NW/LP – NWU; UJ; UL; UP; UNIVEN; WITS; VUT
- Region 5: KZN – DUT; MUT; UKZN; UNIZUL

Results are also presented for the four strata separately: students, academic staff, administrative staff and service staff.

Comparisons among regions and strata are made using Chi-square tests corrected for the complex survey design. Multivariate logistic regression was used to determine risk factors for HIV infection for students. A socio-economic index was created to be used in the model by combined possession of a: bicycle, motorcycle, car, mobile phone, computer or medical aid. The index was divided into quartiles: very low (≤ 1), low (2), middle (3,4), and high (> 4). The model was restricted to sexually experienced students.

In addition, an analysis stratified by race and gender and standardised to the age distribution in HEMIS 2007 was presented to determine whether differences in sexual behaviours might account, at least in part, for the large differences in HIV prevalence by race.

Estimates of HIV prevalence, significance values and confidence intervals were done in STATA 10 software (svy methods) which takes account of the complex survey design and individual weights. The population weights were used as weights. Class (students) and department (staff) was used as the clustering variable. Significance testing was not done where cell sizes were small and use of the test was inappropriate. A p value $< 0,05$ was regarded as statistically significant. Of the 23 375 samples in the survey, there were 22 483 negative, 860 positive and 32 weak positive results. Confirmatory tests were done on all positive results and confirmed the results. Weak positives were considered as positive. There were no inconclusive tests.

The design effect was calculated by the svy commands in STATA 10. The design effect ranged from 4 to 7 for the variables included in the multivariate model. The relatively high design effect is due to the varying cluster sizes and the homogeneity of students taking the same classes at the same institution. The design effect increases the variance of a proportion. Thus achieving statistical significance requires larger differences.

Tables in the report present weighted data and un-weighted counts.

STRENGTHS AND LIMITATIONS

Strengths

The national study comprises a very large sampled population that is representative of 21 HEIs offering contact education in South Africa. The sample is also adequate for reporting findings at institutional level.

The study design emphasised sound ethical practice and was granted ethical approval by all 21 HEIs.

For the most part, questionnaires were self-administered which has the benefit of confidentiality while at the same time overcoming potential mismatches and lack of trust that may occur between study respondents and field workers when questionnaires are administered on a face-to-face interview basis.

High levels of participation were obtained among respondents who attended briefing sessions and the vast majority of respondents who completed questionnaires also provided DBS samples. Lecture periods were used for students who constituted the majority of the sample and sampled students were not warned that the survey was taking place during their lecture. This limited the possibility of non-participation bias among students.

While national household survey reports refer to difficulties in obtaining adequate participation from all race groups – for example, as a product of not being allowed entry into households in some areas¹¹⁹ – the present HEI survey obtained high levels of participation among all race groups.

The inclusion of a qualitative component allowed for deeper levels of analysis and interpretation of the quantitative findings. This component included a rich diversity of students and staff from different campuses, which enhanced the discussions' findings.

There was extensive participation by HIV-positive students and staff. This provided great insight into their experiences of being HIV-positive and recommendations for care and support.

Limitations

The overall sampling method was designed for a national-level study and alternative sampling approaches should be considered in a study design focusing only on single institutions. Notwithstanding this limitation, separate institution-level reports have been developed and provided to senior management at the respective HEIs.

The study timeframe was constrained by contracting requirements and it was only possible to conduct the fieldwork between August 2008 and February 2009. Logistical arrangements were further hampered by the need to consider HEI vacations and exam periods. These factors impeded the smooth implementation of the study.

Illiteracy and/or inability to clearly understand English or Afrikaans among a small subset of staff meant that questionnaires could not be self-administered. In these instances questionnaires were completed via face-to-face interview or via small group administration.

In all institutions, a proportion of those who were supposed to be present may not have been present at scheduled sessions. However, because we did not take registers for anonymity reasons, it was not possible to determine how many potential participants were absent. Students were not warned that particular lecture periods would be used for the study and so their absence from class is unlikely to be related to concerns about participating and is, hence, unlikely to be related to their HIV status.

Staff, on the other hand, were often aware that they were being requested to attend a session related to this HIV study. Where sampled participants were absent from sessions, reasons for non-participation may have included illness as well as other commitments or constraints unrelated to the study. However, non-participation may have extended to a concern about the study and therefore a failure to attend the scheduled session.

The section on participation above provides information on the extent of non-participation of individuals who were present at the testing venues but chose not to complete a questionnaire and/or provide a blood specimen (DBS).

While the exact reasons for this are not clear, it can be seen in table 13 (p22) that in known high prevalence provinces such as KZN and the Free State, non-response rates were higher than average (16,9% and 11,7%, respectively). This may have had the impact of biasing prevalence estimates downward to an unknown degree, and is in keeping with patterns of non-response seen in the latest HSRC South African national HIV prevalence incidence, behaviour and communication survey 2008. Whilst we cannot estimate the extent and direction of any non-participation bias, it is widely believed that HIV infected persons are less likely to volunteer for testing. In other words,

non-participation bias probably results in an under-estimate of the HIV prevalence.

Disputes and protests of various kinds are not uncommon in South African HEIs. In a number of instances disputes and protests disrupted fieldwork and data collection contributing unduly to delays.

At a number of institutions, students and academics were keen to engage with the study rationale and complexities of the study protocol and sampling approach. In some instances, for academic and some administrative staff, this included critiques that resulted in blanket refusals to participate. Concerns were also voiced among a small subset of staff that the study was not relevant for them because HIV and AIDS did not affect them. This resulted in alternative groups being sampled and impacted on the smooth implementation of the study.

A total of 1 590 postgraduate students were included in the sample which is a sufficient sample size on which to make an HIV prevalence estimate. However, those postgraduate students who participated may not be representative of all postgraduate students. This is because this category of students tends to spend much of their time working alone rather than attending formal classes and hence many would not have been

reached using the sampling strategy that was adopted. Consequently, postgraduate students were not analysed separately.

Academic staff were particularly difficult to access in a random manner on a group basis. Academics tend to work alone in their offices or be involved in teaching duties and do not often come together for meetings. To overcome this, in some instances, heads of departments called special meetings in order to get their staff together to participate. Where academic staff were aware of the reason for the meeting, they may have stayed away for reasons associated with their HIV status and hence biased the results. It is not possible to determine the extent or direction of any such bias.

Analysis of HIV prevalence data against current HIV-related behaviours and practices does not provide a comprehensive understanding of the causal drivers of HIV infection. This is a product of the fact that the HIV data does not establish the point of infection, and current behaviours and practices may differ from those that prevailed during the period of infection. This time gap is more likely to be larger when analysing HIV prevalence among persons aged 25 years and older.

SECTION THREE

Quantitative Findings

The quantitative findings are presented in tabular form, and include HIV prevalence as measured through laboratory analysis of DBS in conjunction with questionnaire data. Data related to biological measures is reflected to one decimal place. Other data reports on variables that include non-biological and subjective cognitive aspects and is thus reported without the decimal place to avoid the spurious inference of precision. Where numbers are too small to be statistically reliable, this is indicated with an asterisk in the tables.

The majority of findings are presented in the form of bivariate tables. While such tables might suggest apparent causal associations, the complexity of HIV infection and HIV risk is seldom adequately revealed in bivariate data analysis, and caution is therefore advised in drawing conclusions.

STUDENTS

HIV prevalence, demographic and biological factors

Table 16a illustrates the distribution of demographic and physiologically-related risk factors among students. These proportions inform interpretation of the HIV prevalence data described in Table 16b.

The mean HIV prevalence for students was 3,4% [CI: 2,7%–4,4%]. The province with the highest HIV

prevalence at 6,4% [CI: 4,6%–8,9%] was EC while WC was lowest at 1,1% [CI: 0,7%–1,7%]. The prevalence of HIV was also low in Gau/Lim/NW where it was 2,2% [CI: 1,4%–3,5%].

Females, with an HIV prevalence of 4,7% [CI: 3,6%–6,1%], were more than three times as likely to be HIV positive in comparison to males and this difference was statistically significant – 1,5% [CI: 1,0%–2,1%] ($p < 0,001$). This pattern was consistent across the provinces.

Among those aged 18–19 years, HIV prevalence was lower at 0,7% [CI: 0,5%–1,1%], in comparison to those aged 20–25 years (2,3% [CI: 1,9%–2,8%]) and those over 25 years (8,3% [CI: 6,3%–11,0%]).

The prevalence of HIV was highest amongst African students – 5,6% [CI: 4,4%–7,0%], with only one case of HIV found among the 3 112 white students. Only 0,8% of Coloured students [CI: 0,3%–2,3%], and 0,3% of Indian students [CI: 0,1%–1,3%], were found to be HIV positive.

Sexually experienced students who have children were significantly more likely to be HIV positive, than students who did not have children – 11,6% vs. 2,5% ($OR_{adj} = 2,3$ [CI: 1,6–3,1], $p < 0,001$)

Humanities students were most likely to be HIV positive at 5,0% [CI: 3,5%–7,2%], with a similar HIV

Table 16a Distribution of demographic and risk factors among students

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
All	3 838	20	2 591	14	1 109	8	6 267	41	3 257	17	17 062	100
Sex												
Male	1 453	48	1 042	45	420	45	2 656	48	1 490	47	7 061	47
Female	2 385	52	1 549	55	689	55	3 611	52	1 767	53	10 001	53
Age group												
18–19	1 387	25	580	22	259	24	1 938	26	898	26	5 062	25
20–25	2 124	49	1 669	53	753	44	3 945	49	2 103	52	10 594	50
25+	327	25	342	25	97	32	384	26	256	22	1 406	25
Race												
African	1 384	32	2 127	77	930	62	4 723	60	2 610	69	11 774	58
Indian	126	3	34	1	1	0	97	2	358	17	616	4
Coloured	1 217	31	105	8	26	9	151	5	61	4	1 560	11
White	1 111	34	325	14	152	29	1 296	33	228	10	3 112	27
Area of study												
Bus/come	1 230	26	622	25	390	35	2 250	28	617	13	5 109	25
Hum/Soc	1 067	31	837	32	309	24	1 802	30	1 328	45	5 343	33
Sci/Tecj	1 541	43	1 132	43	410	41	2 215	42	1 312	42	6 610	42
Male circumcision												
Not circumcised	818	57	350	36	304	66	1 354	58	1 125	72	3 951	58
Yes ≤10 yrs	387	28	99	12	28	13	573	19	148	15	1 235	19
Yes > 10 yrs	248	15	593	52	88	21	729	23	217	14	1 875	23
Males: reported STI symptoms–sore, discharge (of all who had sex in last year)												
Yes	41	4	54	7	30	10	162	9	102	10	389	8
No	765	96	671	93	228	90	1 406	91	785	90	3 855	92
Females: reported STI symptoms–sore, discharge (of all who had sex in last year)												
Yes	169	11	232	21	85	15	439	16	169	17	1 094	16
No	1 132	89	793	79	346	85	1 589	84	797	83	4 657	84
Males: experienced forced sex in the past year against will by threat or violence												
Yes	13	1	13	2	4	2	48	2	25	2	103	1
No	1 440	99	1 029	98	416	98	2 608	98	1 465	98	6 958	99
Females: experienced forced sex in the past year against will by threat or violence												
Yes	27	1	30	2	13	1	84	2	37	2	191	2
No	2 358	99	1 519	98	676	99	3 527	98	1 730	98	9 810	98

Table 16b HIV prevalence in relation to demographic and risk factors among students

	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt HIV %	unwgt n	wgt HIV %	unwgt n	wgt HIV %	unwgt n	wgt HIV %	unwgt n	wgt HIV %	unwgt n	wgt HIV %
All (denominator)	3 838	1,1	2 591	6,4	1 109	5,3	6 267	2,2	3 257	6,1	17 062	3,4
Sex												
Male	1 453	0,6	1 042	3,1	420	4,1	2 656	1,2	1 490	4,1	7 061	2,0
Female	2 385	1,5	1 549	9,1	689	6,4	3 611	3,1	1 767	7,8	10 001	4,7
Age group												
18–19	1 387	0,3	580	0,8	259	0,8	1 938	0,7	898	1,2	5 062	0,7
20–25	2 124	1,2	1 669	4,9	753	1,8	3 945	1,3	2 103	4,2	10 594	2,3
25+	327	1,7	342	14,7	97	13,7	384	5,4	256	16,7	1 406	8,3
Race												
African	1 384	3,1	2 127	8,4	930	8,7	4 723	3,1	2 610	8,7	11 774	5,6
Indian	126	0,0	34	0,0	1	0,0	97	0,0	358	0,5	616	0,3
Coloured	1 217	0,3	105	0,5	26	0,0	151	3,2	61	0,0	1 560	0,8
White	1 111	0,0	325	0,0	152	0,0	1 296	0,5	228	0,0	3 112	0,3
Area of Study												
Bus/come	1 230	0,7	622	2,2	390	2,8	2 250	2,7	617	7,4	5 109	2,6
Hum/Soc	1 067	1,8	837	10,2	309	10,7	1 802	2,6	1 328	7,5	5 343	5,0
Sci/Tech	1 541	0,9	1 132	6,1	410	4,4	2 215	1,6	1 312	4,1	6 610	2,7
Male circumcision												
Not circumcised	818	0,5	350	3,6	304	1,1	1 354	0,4	1 125	4,0	3 951	1,5
Yes <=10 yrs	387	0,4	99	0,0	28	0,9	573	2,1	148	1,6	1 235	1,3
Yes > 10 yrs	248	1,4	593	3,5	88	15,0	729	2,1	217	7,5	1 875	3,9
Males: reported STI symptoms–sore, discharge (of all who had sex in last year)												
Yes	41	1,0	54	6,9	30	12,3	162	4,1	102	12,2	389	6,5
No	765	0,5	671	3,7	228	4,2	1 406	1,6	785	5,5	3 855	2,5
Females: reported STI symptoms–sore, discharge (of all who had sex in last year)												
Yes	169	1,8	232	15,6	85	17,4	439	9,9	169	18,7	1 094	12,1
No	1 132	2,4	793	10,5	346	9,4	1 589	4,0	797	9,6	4 657	6,0
Males: experienced forced sex in the past year against will by threat or violence												
Yes	13	3,5	13	0,0	4	31,7	48	0,9	25	11,9	103	6,7
No	1 440	0,6	1 029	3,2	416	3,4	2 608	1,2	1 465	4,0	6 958	1,9
Females: experienced forced sex in the past year against will by threat or violence												
Yes	27	4,3	30	22,4	13	7,5	84	6,4	37	23,1	191	12,1
No	2 358	1,5	1 519	8,9	676	6,4	3 527	3,0	1 730	7,5	9 810	4,6

Table 17a HIV risk behaviours and vulnerability among males (age standardised)

	African	Indian	Coloured	White	All	OR African vs. other adjusting for age		
Ever had sex	82%	48%	72%	59%	73%	3,1	[2,6–3,8]	p < 0,001
Sex in last year (of ever had sex)	83%	86%	91%	84%	85%	0,8	[0,5–1,2]	p = 0,2
Among those reporting ever had sex								
Circumcised	53%	40%	42%	30%	47%	2,1	[1,6–2,8]	p < 0,001
Mean age of sexual debut	17,5	18,6	18,3	19,3	18,0			p < 0,001
Parent of one or more children	22%	9%	26%	3%	19%	1,2	[0,9–1,6]	p = 0,2
> 1 sex partner in last year	48%	23%	27%	25%	41%	2,6	[2,0–3,4]	p < 0,001
> 1 sex partner in last month	22%	7%	9%	3%	16%	5,0	[3,3–7,6]	p < 0,001
Most recent sex partners from this HEI	26%	27%	22%	33%	27%	0,8	[0,6–1,1]	p=0,2
Last sexual partner 10+ years older	7%	5%	10%	3%	7%	1,4	[0,5–3,6]	p = 0,7
Condom use at last sex	64%	58%	55%	56%	62%	1,4	[1,1–1,7]	p = 0,002
Sex while drunk	20%	28%	32%	27%	23%	0,6	[0,4–0,9]	p = 0,005
Sores on genitals	8%	3%	2%	1%	6%	4,8	[3,2–7,1]	p < 0,001
Unusual discharge from	4%	3%	1%	0%	3%	4,6	[2,6–8,4]	p < 0,001
Ever had an HIV test	46%	50%	58%	51%	48%	0,8	[0,6–0,9]	p = 0,03
Perceived economic status of most recent partner								
Same	75%	64%	77%	72%	75%			
Less wealthy	12%	24%	9%	13%	12%			
More wealthy	12%	12%	15%	15%	13%			

prevalence among science and business students respectively – 2,6% [CI: 1,6%–4,4%] for science students and 2,7% [CI: 2,0%–3,6%] for business students.

There was not a significant difference in HIV prevalence between uncircumcised males (1,5% [CI: 0,9% – 2,3%]) and males who were circumcised below 10 years of age (1,3% [CI: 0,3%–4,6%]). Although the highest prevalence of HIV occurred among males who were circumcised at an age older than 10 years – 3,9% [CI: 2,6%–5,8%], this was noted to be confounded by race and when stratified by race. The HIV prevalence among uncircumcised African male students was 2,9% [CI: 1,8%–4,5%]; among those circumcised below 10 years 0,8% [CI: 0,3%–2,4%] and among those circumcised above 10 years 4,0% [CI: 2,7%–6,1%].

HIV was significantly more likely among males – 6,5% [CI: 3,9% – 10,8%] and females – 12,1% [CI:

8,7%–16,5%] who reported symptoms of an STI in the last year compared to males and females who did not report an STI (2,5% [CI: 1,7%–3,5%; 6,0% [CI: 4,5%–7,9%]).

A potential association between experiencing forced sex in the past year and HIV prevalence is demonstrated in Table 16b. HIV is higher among males (6,7% [CI: 2,0%–20,5%]) and females (12,1% [CI: 7,2%–19,5%]) who reported forced sex than males (1,9% [CI: 1,4%–2,7%]) and females (4,6% [CI: 3,5%–5,9%]) who did not report forced sex.

The data was explored to determine the relation between years completed at the institution and HIV. A number of observations were made – notably, that ‘ever had sex’ increased in a linear fashion by year of study from 59% for less than one year of study completed through to 75% for four or more years of study completed (p<.001).

Table 17b HIV risk behaviours and vulnerability among females (age standardised)

	African	Indian	Coloured	White	All	OR African vs. other adjusting for age		
Ever had sex	76%	54%	69%	59%	70%	2,2	[1,8–2,5]	p < 0,001
Sex in last year (of ever had sex)	89%	90%	88%	86%	88%	1,2	[0,9–1,8]	p = 0,2
Among those reporting ever had sex								
Mean age of sexual debut	17,8	18,6	18,1	18,1	17,9			p = 0,2
Parent of one or more children	36%	21%	29%	9%	29%	1,0	[0,8–1,2]	p = 0,8
> 1 sex partner in last year	23%	20%	21%	21%	22%	1,1	[0,9–1,3]	p = 0,2
> 1 sex partner in last month	6%	1%	2%	3%	5%	2,3	[1,6–3,3]	p < 0,001
Most recent sex partners from this HEI	24%	18%	22%	23%	23%	1,1	[0,8–1,4]	p = 0,6
Last sexual partner 10+ years older	13%	3%	5%	5%	10%	3,0	[1,9–4,8]	p < 0,001
Condom use last sex	64%	48%	48%	46%	58%	2,0	[1,7–2,5]	p < 0,001
Sex while drunk	7%	16%	9%	20%	10%	0,4	[0,3–0,5]	p < 0,001
Sores on genitals	11%	2%	5%	2%	8%	4,2	[2,7–6,6]	p < 0,001
Unusual discharge from	13%	4%	8%	6%	11%	2,2	[1,5–3,3]	p < 0,001
Ever had an HIV test	63%	46%	59%	53%	60%	1,5	[1,2–2,0]	p = 0,003
Perceived economic status of most recent partner								
Same	75%	74%	74%	71%	74%			
Less wealthy	7%	7%	9%	8%	8%			
More wealthy	18%	19%	17%	21%	18%			

HIV prevalence was however not linear – for less than one year of study completed it was 2%, for one year of study it was 4%, for two years completed it was 2% and then reverted to 4% for three or more years of study ($p < 0,001$). Condom use at last sex declined slightly from 66% for those who had completed less than one year of study to 60% for those who had completed four or more years of study ($p = 0,03$). Ever having had an HIV test increased over time, from 40% for those who had completed less than a year of study to 55% for those who had completed four years or more.

HIV-related behaviours and practices

Given the prominent differences between HIV prevalence between African and other race groups, the data was analysed to explore the differences in HIV risk behaviours and vulnerability to HIV between race groups among students. Tables 17a and 17b illustrate

differences between African males and males of other race groups, and also African females and females of other race groups. Note that age in this analysis has not been standardised and only students have been included in this analysis.

The following differences were noted between African males in comparison to other race groups combined. African males were more likely to:

- ever have had sex ($p < 0,001$, OR: 3,1 [CI: 2,6–3,8]);
- have an earlier mean age of sexual debut ($p < 0,001$);
- have had more than one sexual partner in the past year ($p < 0,001$, OR: 2,6 [CI: 2,0–3,4]);
- have had more than one sexual partner in the past month ($p < 0,001$, OR: 5,0 [CI: 3,3–7,6]);
- report sores on genitals ($p < 0,001$, OR: 4,8 [CI: 3,2–7,1]);

Table 18a Sexual practices among students

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
MSM in past year												
Yes	77	6	68	6	18	4	145	5	75	5	383	6
No	1 376	94	974	94	402	96	2 511	95	1 415	95	6 678	94
WSW in past year												
Yes	42	3	46	3	20	2	102	3	35	2	245	2
No	2 343	98	1 503	97	669	98	3 509	97	1 732	98	9 756	98
Males: Heterosexual anal sex												
Yes	80	6	69	7	40	7	187	7	168	10	544	7
No	1 373	94	973	93	380	93	2 469	93	1 322	90	6 517	93
Females: Heterosexual anal sex												
Yes	105	5	101	7	58	7	246	6	165	9	675	7
No	2 280	95	1 448	93	631	93	3 365	94	1 602	91	9 326	93
Males: Sexual partners in the past month (of all who had sex in last year)												
0 or 1	696	89	556	75	204	82	1 223	80	667	78	3 346	81
>1 partner	110	11	169	25	54	18	345	20	220	22	898	19
Females: Sexual partners in the past month (of all who had sex in last year)												
0 or 1	1 223	95	951	94	396	94	1 860	94	917	95	5 347	94
>1 partner	78	5	74	6	35	6	168	6	49	5	404	6
Males, 18-24, partner 10+ years older (of all who had sex in last year)												
No (less than 10 years)	675	96	562	93	201	95	1 266	94	611	93	3 315	94
Yes (10+ years older)	26	4	34	7	11	5	87	6	55	7	213	6
Females, 18-24, partner 10+ years older (of all who had sex in last year)												
No (less than 10 years)	1 041	96	727	90	339	92	1 663	92	599	93	4 369	93
Yes (10+ years older)	52	4	83	10	36	8	157	8	51	7	379	7

- report unusual discharge from genitals ($p<0,001$, OR: 4,6 [CI:2,6–8,4]).

African males were similarly likely to have had sex in the past year ($p=0,2$), more likely to have used a condom at last sex ($p=0,002$), and less likely to have had an HIV test ($p=0,03$). African males were significantly less likely to report having sex while drunk compared to other race groups ($p<0,005$).

In the case of African females, the following differences were noted in comparison to other race groups combined. African females were more likely to:

- ever have had sex ($p<0,001$, OR: 2,2 [1,8–2,5]);
- have had more than one sexual partner in the past month ($p<0,001$, OR: 2,3 [1,6–3,3]);
- have had a partner 10 or more years older ($p<0,001$, OR: 3,0 [1,9–4,8]);

Table 18b HIV prevalence in relation to sexual practices among students

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
MSM in past year												
Yes	77	1,3	68	5,8	18	0,0	145	1,3	75	8,0	383	3,0
No	1 376	0,5	974	2,9	402	4,2	2 511	1,1	1 415	3,9	6 678	1,9
WSW in past year												
Yes	42	1,8	46	11,7	20	8,7	102	1,7	35	10,0	245	4,9
No	2 343	1,5	1 503	9,0	669	6,4	3 509	3,1	1 732	7,8	9 756	4,7
Males: Heterosexual anal sex												
Yes	80	0,5	69	1,8	40	0,0	187	4,2	168	4,4	544	3,0
No	1 373	0,6	973	3,2	380	4,3	2 469	0,9	1 322	4,1	6 517	1,9
Females: Heterosexual anal sex												
Yes	105	4,3	101	13,9	58	7,5	246	2,5	165	18,3	675	8,4
No	2 280	1,4	1 448	8,8	631	6,3	3 365	3,2	1 062	6,8	9 326	4,4
Males: Sexual partners in the past month (of all who had sex in last year)												
No (0,1), HIV+	696	0,6	556	3,9	204	4,4	1 223	1,6	667	6,2	3 346	2,6
Yes (>1), HIV+	110	0,4	169	3,8	54	8,1	345	2,7	220	5,7	898	3,5
Females: Sexual partners in the past month (of all who had sex in last year)												
No (0,1), HIV+	1 223	2,3	951	11,0	396	10,9	1 860	5,1	917	11,3	5 347	6,9
Yes (>1), HIV+	78	2,9	74	21,2	35	4,9	168	3,3	49	7,4	404	6,9
Males, 18-24, partner 10+ years older (of all who had sex in last year)												
No (less than 10 years), HIV+	675	0,2	562	1,7	201	0,4	1 266	0,5	611	1,7	3 315	0,8
Yes (10+ years older), HIV+	26	0,0	34	2,1	11	0,0	87	0,0	55	5,5	213	1,5
Females, 18-24, partner 10+ years older (of all who had sex in last year)												
No (less than 10 years), HIV+	1 041	1,7	727	5,2	339	3,1	1 663	2,0	599	5,4	4 369	3,1
Yes (10+ years older), HIV+	52	7,8	83	16,8	36	9,9	157	13,0	51	11,7	379	12,8

- report sores on genitals ($p<0,001$, OR: 4,2 [2,7–6,6]);
- report unusual discharge from genitals ($p<0,001$, OR: 2,2 [1,5–3,3]);

African females were similarly likely to have had sex in the past year ($p=0,8$), to have had more than one sexual partner in the past year ($p=0,2$), significantly more likely to have used a condom at

last sex ($p<0,001$), to have had a recent sex partner from the institution ($p=0,6$), and significantly more likely to have had an HIV test ($p<0,003$). African females were significantly less likely to report having sex while drunk compared to other race groups ($p<0,001$).

There were no important differences in sexual practices between provincial groupings. Same-sex practices

Table 19a Other HIV-related behaviours and practices among students

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Condom use at last sex (of sex in past year) (n=denominator)	2 107	56	1 750	60	689	53	3 596	63	1 853	60	9 995	60
Relation to sex (of sex in past year) agree												
I am often tricked or pressurised into having sex when I don't want it (of had sex in past year)	81	3	113	7	28	3	267	6	152	8	641	5
I often expect money or gifts in exchange for sex (of had sex in past year)	33	1	28	2	14	1	88	2	59	3	222	2
HIV testing												
In past year	1 388	36	810	31	344	28	1 698	27	996	29	5 236	30
More than a year ago	510	16	415	17	129	19	729	16	382	13	2 165	16
Never	1 940	48	1 366	52	636	52	3 840	57	1 879	58	9 661	54
Substance use												
Drink alcohol never/occasionally	3 276	84	2 371	91	1 034	88	5 754	89	3 099	95	534 ¹⁵	89
Drink alcohol weekly or more	562	16	220	9	75	12	513	11	158	5	1 528	11
Drunk in past month	1 541	41	838	32	379	37	2 054	36	812	24	5 624	35
Used marijuana in past month	505	13	225	8	71	9	471	7	263	8	1 535	9
Injected drug in past month	15	0	12	1	3	0	60	1	26	1	116	1

in the past year were reported by 6% of males and 2% of females. Heterosexual anal sex was reported by 7% of males and females. Males were more likely to report having more than one sexual partner in the past month than females (19% vs. 6%).

A similar proportion of males and females reported having sexual partners who were 10 years or older than themselves (6%, 7%).

Table 18b shows that HIV was more prevalent in males who reported having same-sex partners in the last year than those who did not (3,0%, [CI: 1,7%–5,0%] vs. 1,9%, [CI: 1,3%–2,8%]). This difference was however not significant, $p=0,2$. There was no significant difference in HIV prevalence among females reporting having sex with other women, in comparison to those who did not (4,9% vs. 4,7%, $p=0,9$).

HIV prevalence was higher among males and females reporting heterosexual anal sex. These differences were not significant for males ($p=0,2$) but were significant for females ($p=0,002$).

Among males who had one or no partners in the past month, 2,6% were HIV positive in comparison to 3,5% who had more than one partner. This difference was not significant, $p=0,3$. There was no difference in HIV prevalence between females who had one or no partners in the past month and those who had more than one partner (6,9%, 6,9%).

Males who had a most recent partner 10 or more years older than themselves were less likely to be HIV positive (1,5% vs. 0,8%), and this difference was not significant ($p=0,2$). Among females however, HIV prevalence was 12,8% among those who had a most

Table 19b HIV prevalence by various behaviours and practices among students

(n=denominator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Condom use at last sex (of sex in past year)	1 243	1,4	1 092	8,7	442	9,8	2 411	3,3	1 174	8,5	6 362	5,1
No condom	864	1,5	658	7,2	247	6,2	1 185	3,6	679	9,1	3 633	4,8
Relation to sex (of sex in past year)												
I am often tricked or pressurised into having sex when I don't want it (of had sex in past year) agree	81	3,3	113	9,9	28	2,4	267	4,9	152	12,9	641	7,4
I am often tricked or pressurised into having sex when I don't want it (of had sex in past year) disagree	2 026	1,4	1 637	8,0	661	8,3	3 329	3,4	1 701	8,4	9 354	4,8
I often expect money or gifts in exchange for sex (of had sex in past year) agree	33	4,3	28	4,5	14	0,0	88	11,6	59	10,5	222	8,5
I often expect money or gifts in exchange for sex (of had sex in past year) disagree	2 074	1,4	1 722	8,2	675	8,2	3 508	3,3	1 794	8,7	9 773	4,9
HIV testing												
In past year	1 388	1,2	810	7,5	344	6,4	1 698	4,1	996	8,4	5 236	4,7
More than a year ago	510	1,4	415	10,0	129	9,3	729	1,9	382	10,0	2 165	4,8
Never	1 940	0,9	1 366	4,6	636	3,3	3 840	1,3	1 879	4,1	9 661	2,3
Substance use												
Drink alcohol never/ occasionally	3 276	1,3	2 371	7,0	1 034	6,0	5 754	2,3	3 099	6,2	15 534	3,7
Drink alcohol weekly or more	563	0,1	220	0,0	75	0,0	513	1,1	158	4,7	1 528	0,9
Drunk in past month yes	1 541	0,5	838	2,8	379	4,8	2 054	1,3	812	5,5	5 624	2,1
Drunk in past month no	2 297	1,5	1 753	8,1	730	5,7	4 213	2,7	2 445	6,3	11 438	4,2
Used marijuana in past month	505	0,6	225	0,6	71	4,3	471	0,5	263	5,7	1 535	1,7
Not used marijuana in past month	3 333	1,2	2 366	7,0	1 038	5,4	5 796	2,3	2 994	6,1	15 527	3,6
Injected drug in past month	15	0,0	12	4,7	3	0,0	60	0,0	26	12,4	116	3,2
Not injected drug in past month	3 823	1,1	2 579	6,4	1 106	5,4	6 207	2,2	3 231	6,0	16 946	3,4

recent partner ten or more years older than themselves in comparison to those who did not (3,1%). This difference was significant ($p < 0,001$).

Among students, condom use, reporting of transactional sex, prevalence of HIV testing and substance

use are similar between provincial groupings of HEIs and condom use at last sex ranges from 53% to 63%.

Only a small proportion of students who had sex in the past year agreed that they were often tricked or pressurised into having sex when they didn't want it

Table 20 Knowledge and attitudes related to HIV among students

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Knowledge												
The more sexual partners you have, the more likely it is that you will be infected with HIV (True)	3 609	94	2 321	90	1 020	93	5 724	91	2 822	88	15 496	91
You can be infected with HIV by touching a person who is HIV positive (False)	3 702	95	2 491	96	1 004	92	6 031	95	3 029	93	16 257	95
A mother can pass HIV on to her baby through breastfeeding (True)	2 608	66	1 770	67	683	66	4 207	66	2 014	64	11 282	66
If a person is raped, there are drugs available that can prevent HIV infection (True)	2 190	57	1 309	49	514	54	3 329	58	1 452	50	8 794	55
It is against the law for a girl younger than 16 to have sex with an older man, even if she agrees to it (True)	3 319	88	2 063	79	924	82	5 198	84	2 579	81	14 083	83
There are drugs available called antiretrovirals that can help people with HIV and AIDS live longer (True)	3 602	94	2 419	93	1 029	95	5 815	92	2 906	90	15 771	92
Attitudes and perceptions related to sexual partnerships (Males)												
I believe that it is acceptable to have a one-night stand (Agree, Agree strongly)	403	26	274	25	99	21	644	23	384	26	1 804	24
It is acceptable to me for a man to have more than one boyfriend at a time (Agree, Agree strongly)	185	11	164	16	71	16	480	17	281	17	1 181	15
It is acceptable to me for a woman to have more than one boyfriend at a time (Agree, Agree strongly)	99	6	55	5	32	7	220	9	73	5	479	7
I believe it is acceptable for students to have sex for money to support their studies (Agree, Agree strongly)	66	4	49	5	23	6	125	4	86	6	349	5
Many of my friends have more than one current sexual partner (of all)	379	23	482	44	178	35	1 059	34	622	35	2 720	33
Attitudes and perceptions related to sexual partnerships (Females)												
I believe that it is acceptable to have a one-night stand (Agree, Agree strongly)	171	9	124	8	23	3	189	6	81	4	588	6
It is acceptable to me for a man to have more than one girlfriend at a time (Agree, Agree strongly)	77	4	48	3	17	3	109	3	42	2	293	3
It is acceptable to me for a woman to have more than one boyfriend at a time (Agree, Agree strongly)	82	4	45	3	17	3	130	3	51	3	325	3
I believe it is acceptable for students to have sex for money to support their studies (Agree, Agree strongly)	19	1	15	1	8	1	68	2	30	1	140	1
Many of my friends have more than one current sexual partner (of all)	297	13	369	23	159	18	689	16	312	17	1 826	17

(5%), and only a small proportion reported expecting money or gifts in exchange for sex (2%).

Most students drink alcohol either occasionally or never (89%), with only around one in nine (11%) drinking once a week or more. However, over a third of students (35%), including those who drink occasionally, reported being drunk in the past month.

Students were asked whether or not they had used specific recreational drugs in the past month. These included marijuana, cocaine, amphetamines, LSD, and heroin, among others. There was very low overall prevalence of recreational drug use, apart from marijuana, which was used by 9% of students in the past month, and this was highest in WC. A very small proportion of students (1%) reported injecting a drug (for example heroin) in the past month.

HIV prevalence was similar among students who reporting using a condom at last sex and those who did not (5,1% vs. 4,8%).

The prevalence of HIV was significantly higher among students who indicated that they had been tricked or pressurised into sex (7,4% [CI: 4,8%–11,2%]) than those who indicated that they were not (4,8% [CI: 3,8% – 6,1%]) and this difference was significant ($p=0,046$). HIV prevalence was higher among students who said they expected money or gifts in exchange for sex (8,5% [CI: 3,6%–18,9%]) in comparison to those who did not (4,9% [CI: 3,9%–6,2%]). This difference was however not significant ($p=0,2$).

Slightly more than half (54%) of students had never tested for HIV, and of this group, 2,3% were HIV positive. In the EC, some 4,6% of those who had never tested were found to be HIV positive.

HIV prevalence was significantly lower among those students who reported that they were drunk in the last month (2,1%; [CI: 1,5%–2,9%]) compared to students who had not been drunk in the last month (4,2%: [CI: 3,2%–5,3%]), $p < 0,001$. Use of marijuana was also significantly associated with lower HIV prevalence (1,7% [CI: 1,0%–2,8%] vs. 3,6% [CI: 2,8%–4,6%]),

$p=0,002$. There was no statistically significant association between injecting drugs in the past month and HIV infection.

Knowledge, attitudes and norms

Overall knowledge of HIV among students was high, but was inadequate on two key statements: knowledge of HIV transmission through breastfeeding, which only around two thirds answered correctly (66%), and the availability of post-exposure prophylaxis in the case of rape which was answered correctly by only around half of students (55%).

In relation to attitudes to sexual partnerships, there was an overall low agreement with statements related to promiscuity, with the exception of male students in response to the statement “It is acceptable to have a one-night-stand” – where around a quarter agreed (24%); and the statement related to acceptability of a man having more than one girlfriend at a time, which found agreement among 15% of male students. There were however lower levels of agreement among males with the statement related to a woman having more than one boyfriend at a time (7%). There were lower levels of agreement among females – only 6% agreed that one-night stands were acceptable, and only 3% agreed that having more than one boyfriend or girlfriend at a time was acceptable. A third of male students (33%) believed that many of their friends had more than one current sexual partner. In comparison, 17% of females agreed with the statement.

Exposure, perceptions and vulnerabilities related to HIV and AIDS

Around one in six students (18%) indicated that a person they knew personally had said they were HIV positive in the past year. This was highest in KZN (26%) and EC (22%). Around a third of students (30%) mentioned that they personally knew someone who had died of AIDS, although only 4% indicated that they knew of a student or staff member who had died of AIDS.

Around one in eleven students (9%) said they had provided care to an HIV-positive child or adult in their

Table 21 Exposure, perceptions and vulnerabilities related to HIV and AIDS among students

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Community-level exposure to HIV and AIDS (past year)												
Someone I know personally has said they are HIV positive	418	11	562	22	239	24	1 043	16	834	26	3 096	18
Someone I know personally has died of AIDS	694	16	1 037	39	445	34	2 098	30	1 386	41	5 660	30
I know of a student or staff member who has died of AIDS	101	2	137	5	30	5	337	4	234	7	839	4
I have provided care to an HIV-positive child or adult in my household	202	4	362	14	110	7	535	8	446	13	1 655	9
I have missed classes or work to attend a funeral of a person who has died of AIDS	106	3	194	8	80	7	420	5	256	8	1 056	6
Perceptions related to living with HIV and AIDS												
It is a waste of money to provide further education to someone who is HIV positive (Disagree/ Disagree strongly)	3 477	90	2 345	90	960	81	5 467	87	2 878	87	15 127	88
If I told my friends at this institution that I had HIV, most of them would support me (Agree/Agree strongly)	1 693	41	972	35	345	29	2 241	37	1 069	34	6 320	36
If a teacher has HIV but is not sick, she/he should be allowed to continue teaching (Agree/Agree strongly)	3 358	88	2 337	88	963	86	5 579	89	2 876	88	15 113	88
Exposure to violence and harassment												
I feel safe from physical harm at this institution (Agree/Agree strongly)	2 579	69	1 367	53	584	56	3 783	65	1 625	53	9 938	61
Violent crime where people are physically injured is a serious problem at this institution (Agree/Agree strongly)	680	17	540	20	209	18	1 135	16	668	19	3 232	17
Female students are safe from sexual harassment at this institution (Agree/Agree strongly)	1 420	37	837	34	409	34	2 416	42	1 100	35	6 182	38

household in the past year, while 6% said they had missed classes or work to attend a funeral of a person who had died of AIDS. Such direct exposures were highest in the two high prevalence regions – EC and KZN.

Stigmatising attitudes to people living with HIV were overall low, with around nine out of ten students being accepting of HIV-positive people. However, there was a strong sense among student respondents that if they themselves were found to be HIV positive, they would

not be supported – only 36% agreed that their friends at the institution would support them.

There was not an overwhelmingly strong sense among students that they were safe from physical harm at the institution, with only 61% agreeing with the statement. Perceptions that physical injury through violent crime was a problem were held by 17% of students, while only around a third (38%) agreed that female students were safe from sexual harassment at the institution.

Table 22 Perceptions of leadership and responses related to HIV and AIDS among students

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Perceptions of management and student leadership (Agree, Agree strongly)												
The management of this institution take HIV and AIDS seriously	2 646	66	1 367	52	423	38	3 099	48	1 601	50	9 136	52
The student leaders of this institution take HIV and AIDS seriously	2 070	52	1 104	39	305	28	2 256	33	1 209	37	6 944	38
There should be more emphasis on HIV and AIDS in academic classes at this institution	2 159	56	1 900	75	862	69	4 356	65	2 416	70	11 693	66
Knowledge of support infrastructure (Yes)												
If you discovered you were HIV positive, is there a place at this institution where you could go for help and support	2 551	63	1 715	64	623	55	4 166	61	2 139	67	11 194	62
Involvement in HIV and AIDS activities in the past year (Yes)												
I have attended a meeting or function about HIV and AIDS at this institution	1 530	35	1 193	41	398	32	2 442	31	1 458	40	7 021	35
I have received information in the form of leaflets or booklets about HIV and AIDS at this institution	2 514	59	1 754	66	642	52	3 945	54	2 269	67	11 124	58
I have obtained free condoms at this institution	2 206	52	1 724	63	379	32	3 371	47	1 837	57	9 517	51
I have worn a t-shirt, cap, red ribbon or other item of clothing with an AIDS message at this institution.	993	24	580	19	234	20	1 314	19	638	20	3 759	20
I am a member of an HIV and AIDS club or organisation at this institution	68	1	121	4	24	3	171	2	120	3	504	2
I have been involved in conducting HIV and AIDS research while I have been a student or have been working at this institution	712	16	270	10	108	10	642	9	424	14	2 156	11

Perceptions of leadership and responses related to HIV and AIDS

There was overall poor agreement with the statements related to management and student leaders taking HIV and AIDS seriously with only 52% agreeing that management did so, and only 38% agreeing that student leaders did so. Furthermore, two thirds (66%) felt that there should be more emphasis on HIV and AIDS in academic classes.

Around two thirds of students (62%) knew of a place at the institution they could go for help if they discovered

they were HIV positive. The predominant forms of engagement with HIV and AIDS at the institutions in the past year were receiving information in the form of leaflets or booklets, and obtaining free condoms. Only 2% were involved in an HIV and AIDS club or organisation at the institution, although 11% said they had been involved in HIV and AIDS research.

Exposure to communication

The majority of students (73%) listened to the radio or watched television two days a week or more, although only around a third read a magazine or newspaper two

Table 23 Exposure, two days a week or more, by medium

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Communication mediums												
Listen to radio	2 612	68	1 734	69	849	75	4 727	75	2 384	75	12 306	73
Watch television	2 754	75	1 916	76	818	77	4 298	70	2 278	73	12 064	73
Read a magazine	1 086	30	716	29	399	35	1 914	29	947	29	5 062	30
Read a newspaper	1 219	34	756	33	422	41	2 309	37	1 255	42	5 961	37
Use the internet	3 320	87	1 685	64	723	62	4 220	73	2 268	73	12 216	74
Use email	3 082	80	1 454	54	440	39	3 143	58	1 779	59	9 898	61
Contacted an HIV and AIDS helpline in past year												
Yes	153	4	226	9	117	9	611	8	310	8	1 417	7

Table 24 Response to: "Have any of the following made you take HIV and AIDS more seriously in the past year?" among students

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Campus radio programmes	338	8	580	22	137	10	1 267	14	394	11	2 716	13
Campus newspaper articles	649	14	565	20	233	16	1 428	18	752	23	3 627	18
Leaflets, booklets or posters at this institution	1 142	26	1 081	40	397	30	2 362	29	1 295	37	6 277	31
HIV and AIDS activities at this institution	1 186	27	1 088	37	348	25	2 119	26	1 218	34	5 959	29
Knowing or talking to someone with HIV	994	23	960	35	412	34	1 964	29	1 266	37	5 596	30
Knowing someone who has died of AIDS	930	21	1 130	41	462	39	2 343	33	1 444	41	6 309	33
AIDS statistics	1 493	37	1 153	42	511	43	2 602	39	1 469	43	7 228	40
Talking to a health worker	1 025	25	911	35	387	32	1 923	27	1 071	33	5 317	29
Having an HIV test	1 369	33	964	36	392	35	1 955	28	1 105	32	5 785	31
Talking to friends	1 301	31	1 275	47	587	44	2 846	40	1 578	45	7 587	40
Talking to family members	1 094	26	1 132	41	504	38	2 419	35	1 440	42	6 589	35
Information on the internet	1 060	25	826	30	364	28	1 974	28	1 098	33	5 322	28

days a week or more (30%, 37%). Internet and email use was common, with 74% using the internet and 61% using email two days a week or more. Only 7% had contacted an HIV and AIDS helpline in the past year.

When students were asked about communication that had made them take HIV and AIDS more seriously in the past year, there was relatively low mention of campus radio programmes (13%) or campus newspaper articles (18%). Leaflets, booklets, or posters (31%) and HIV and AIDS activities at the institutions (29%) did however garner higher register. Among other communication, AIDS statistics and talking to friends and family members, were most influential.

Comparison of HIV prevalence among students at HEIs by region

Table 25 Prevalence of HIV among students at HEIs by region

HEIs listed by Region	HIV prev %	HIV prevalence level
EC x 1; WC x 3; GT/NW/L x 3	0,1–1.5	Low
EC x 1; WC x 1; GT/NW/L x 3; KZN x 1; FS x 1	2,0–3.5	Medium
EC x 2; GT/NW/L x 1; KZN x 3; FS x 1;	3,8–13.8	High
Mean	3,4	

Table 25 shows the prevalence of HIV among students at participating HEIs. The list is ranked from lowest HIV prevalence to the highest. Note the wide variation in HIV prevalence even within a region. For example, the EC has HEIs in all three categories.

An analysis was conducted to determine whether there were significant differences in selected risk factors by HEI grouping in relation to low, medium and high HIV prevalence. Table 26 shows that the proportion of students who have ever had sex and who are African is associated with HEIs with a higher HIV prevalence. This table also shows that many risk factors appear to be more common in higher prevalence institutions. The potential for confounding factors by race is illustrated in Tables 17a and 17b, and to avoid these, Table 27 (below) analyses risk factors for African students only.

Table 26 Comparison of risk factors for acquiring HIV among students by low, medium and high HIV prevalence institutions

	Low HIV %	Middle HIV %	High HIV %	P value
Proportion of HIV positive	1	3	8	<0,001
Proportion of HIV positive (African)	2	4	10	<0,001
Proportion of African	36	68	82	<0,001
Proportion of ever had sex	62	73	72	<0,001
Proportions among those who ever had sex:				
> 1 partners in last year	27	34	33	0,010
> 1 partners in last month	8	12	12	0,007
Age of coital debut <= 14	8	12	15	0,000
Condom use last sex	59	61	59	0,500
Unusual discharge in past 3 months	5	7	10	<0,001
Genital sore in past 3 months	5	8	8	<0,001
Sexual partner 10+ years older	6	8	13	<0,001
Forced to have sex in past 12 months	1	3	3	0,020
Drink alcohol more than once a week	17	9	7	<0,001
Drunk in the past month	48	37	30	<0,001

Table 27 shows that fewer factors appear to be significantly associated with a higher HIV prevalence when only African students are considered. In higher prevalence HEIs there tend to be more students reporting genital discharge symptoms, more students with older sex partners and an increased risk of ever being forced to have sex. However, these differences, while statistically significant, are not qualitatively substantially different. Drinking alcohol more than once a week and being drunk in the past month remains inversely associated with higher HIV prevalence.

In essence, there are not substantial differences in sexual behaviours or selected biological factors between institutions with a low overall HIV prevalence and those with a high HIV prevalence. It can therefore be concluded that an external factor is likely to

Table 27 Comparison of risk factors for acquiring HIV among African students by low, medium and high HIV prevalence institutions

All african students	Low %	Middle %	High %	P value
Proportion of HIV positive	2	4	10	
Proportion of males	48	49	43	0,30
Proportion of ever had sex	77	78	77	0,70
Proportions among those who ever had sex:				
> 1 partners in last year	32	37	34	0,30
> 1 partners in last month	13	15	13	0,40
Age of coital debut <= 14	12	14	15	0,30
Condom use last sex	66	64	63	0,40
Unusual discharge in past 3 months	7	8	11	0,01
Genital sore in past 3 months	8	10	9	0,08
Sexual partner 10+ years older	8	9	13	0,01
Force to have sex in past 12 months	2	3	3	0,01
Drink alcohol more than once a week	6	6	4	<0,001
Drunk in the past month	34	33	26	0,003

influence higher HIV prevalence, and it is most likely that this is the overall HIV prevalence in the context surrounding the HEI in combination with the HIV prevalence of sexual partners of African students. In other words, although risk behaviours are similar, the risk of HIV transmission to HIV negative students is higher where HIV prevalence among sexual partners is higher.

Multivariate analysis of independent risk factors among students

A multiple logistic analysis was done among sexually experienced students to identify independent factors associated with being HIV positive. Among demographic factors, age was strongly associated with HIV. Older students in age groups 25+ and 20–24 had a greater chance of being HIV positive when compared to students aged less than 20 – OR_{adj} : 7,0 [CI: 4,2–11,6] and 2,2 [CI: 2,5–3,7].

Race, sex and socio-economic category were also shown to be important risk factors. African students were more likely to be HIV positive compared to other races (OR_{adj} : 5,0 [CI: 1,8–14,2]) and females

were more likely to be HIV positive than males (OR_{adj} : 2,2 [CI: 1,5–3,2]). HIV prevalence decreased with increasing socio-economic category – from OR_{adj} : 0,6 [CI: 0,4–0,9] for low socio-economic category to 0,3 [CI: 0,1–0,9] for high socio-economic category.

In relation to possible biological factors, students reporting a genital sore or unusual discharge in the past three months were more likely to be HIV positive compared to those not reporting these factors (OR_{adj} : 1,6 [CI: 1,1–2,5]). Students whose sexual partner was 10 or more years older were also more likely to be HIV positive in comparison to students with a partner the same age or younger (OR_{adj} : 1,4 [CI: 1,0–2,0]). Having higher numbers of sexual partners in the past year or the past month did not show a significant association with being HIV positive.

HIV prevalence was inversely and independently related to alcohol consumption. Individuals who drink alcohol are significantly less likely to be HIV positive than those that do not drink and individuals who reported being drunk in the last month were also less likely to be HIV infected in comparison to those that did not report being drunk.

Table 28 A multiple logistic analysis among sexually experienced students to identify independent factors associated with being HIV positive

	% HIV+	CI	Unadj OR	CI	Adj OR	CI	P value
Sex							
Female	7	[5,1–8,4]	2,6	[1,8–3,6]	2,2	[1,5–3,2]	<0,001
Male	3	[1,9–3,6]	1		1		
Race							
African	7	[5,4–8,4]	9,5	[3,5–26,0]	5,0	[1,8–14,2]	0,003
Other	1	[0,3–2,0]	1		1		
SES							
Very low	9	[6,5–11,0]	1		1		
Low	4	[3,4–5,7]	0,5	[0,4–0,7]	0,60	[0,4–0,9]	0,02
Middle	3	[2,0–5,1]	0,4	[0,2–0,6]	0,09	[0,4–1,1]	0,1
High	1	[0,3–1,2]	0,1	[0,03–0,1]	0,30	[0,1–0,9]	0,03
Age							
< 20	1	[0,9–2,1]	1				
20-24	3	[2,5–3,7]	2,2	[1,4–3,4]	2,10	[1,4–3,3]	0,001
>=25	9	[6,9–11,9]	7	[4,2–11,6]	7,30	[4,1–12,9]	<0,001
Partners in last year							
0,1	5	[3,8–6,4]	1				
> 1	4	[3,2–5,3]	0,8	[0,6–1,1]			
Partners in last month							
0	3	[2,6–4,4]	1				
1	6	[4,2–7,3]	1,7	[1,3–2,2]			
> 1	4	[3,1–6,2]	1,3	[0,8–2,0]			
Unusual discharge in past 3 months							
Yes	11	[7,6–14,7]	2,7	[1,8–3,9]	1,70	[1,1–2,6]	0,02
No	4	[3,3–5,4]	1		1		
Genital sore in past 3 months							
Yes	11	[7,9–14,1]	2,7	[1,9–3,7]	1,60	[1,1–2,5]	0,02
No	4	[3,3–5,4]	1		1		
Sexual partner 10+ years older							
Yes	10	[6,8–13,6]	2,4	[1,7–3,4]	1,40	[1,0–2,0]	0,08
No	4	[3,4–5,3]	1		1		
Force to have sex in past 12 months							
Yes	10	[6,0–15,7]	2,3	[1,5–3,5]			
No	5	[3,7–5,7]	1				
Drink alcohol							
Never	7	[5,8–9,0]	1				
less than once/week	4	[3,0–5,0]	0,5	[0,4–0,6]			
More than once a week	1	[0,5–2,3]	0,1	[0,07–0,3]			
Drunk in the past month							
Yes	3	[1,8–3,4]	1				
No	5	[3,4–6,4]	1,9	[1,3–2,7]			
Doesn't drink	7	[5,8–9,0]	3	[2,3–4,0]			

Table 29a Distribution of demographic and risk factors among academic staff

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
All	471	26	379	20	123	6	628	33	279	15	1 880	100
Sex												
Male	254	63	188	61	45	44	288	55	136	58	911	58
Female	217	37	191	39	78	56	340	45	143	42	969	42
Age group												
<40	208	39	122	29	64	48	269	39	97	31	760	36
40+	263	61	257	71	59	52	359	61	182	69	1 120	64
Race												
African	49	9	188	44	23	17	177	25	82	25	519	24
Indian	24	5	12	3	0	0	23	3	75	29	134	7
Coloured	111	24	8	2	8	7	13	2	5	2	145	8
White	287	62	171	50	92	76	415	69	117	44	1 082	60
Marital status												
Married	292	65	252	69	74	61	411	68	188	70	1 217	67
Not married	179	35	127	31	49	39	217	32	91	30	663	33
Parenting status												
Have children	275	62	295	78	73	61	443	72	190	69	1 276	69
No children	196	38	84	22	50	39	185	28	89	31	604	31
Faculty grouping												
Business	123	26	50	18	42	36	95	15	29	10	339	19
Humanities	97	19	125	42	24	19	222	35	110	38	578	31
Sciences	251	54	106	40	57	45	311	50	140	51	865	50
Absenteeism in past month												
Missed no classes	379	81	281	75	102	85	501	80	216	76	1 479	79
Missed <3 days	82	17	79	21	15	11	113	17	53	20	342	18
Missed 3+ days	10	2	19	4	6	4	14	2	10	3	59	3
Medical Aid												
Yes	436	93	338	90	107	88	572	92	257	93	1 710	92
No	35	7	41	10	16	12	56	8	22	7	170	8
Male circumcision												
Not circumcised	144	57	74	40	33	74	160	56	82	60	493	54
Yes ≤10 yrs	88	35	57	31	5	12	94	33	45	34	289	32
Yes > 10 yrs	22	8	57	29	7	14	34	11	9	6	129	13
Males: reported STI symptoms-sore, discharge (of all who had sex in last year)												
Yes	4	2	2	1	0	0	2	1	5	4	13	2
No	208	98	169	99	38	100	254	99	112	96	781	98
Females: reported STI symptoms-sore, discharge (of all who had sex in last year)												
Yes	11	7	14	9	3	5	7	2	7	5	42	5
No	149	93	133	91	52	95	250	98	105	95	689	95
Males: experienced forced sex in the past year against will by threat or violence												
Yes	1	0	1	1	0	0	1	0	0	0	3	0
No	253	100	187	99	45	100	287	100	136	100	908	100
Females: experienced forced sex in the past year against will by threat or violence												
Yes	0	0	1	0	3	4	1	0	1	1	6	1
No	217	100	190	100	75	96	339	100	142	99	963	99

Table 29b HIV prevalence in relation to demographic and risk factors among academic staff

	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
All (denominator)	471	0,2	379	3,3	123	0,0	628	1,2	279	2,4	1 880	1,5
Sex												
Male	254	0,4	188	4,0	45	0,0	288	1,0	136	2,0	911	1,5
Female	217	0,0	191	2,3	78	0,0	340	1,6	143	3,0	969	1,4
Age group												
<40	208	0,0	122	4,8	64	0,0	269	2,0	97	6,3	760	2,3
40+	263	0,4	257	2,7	59	0,0	359	0,7	182	0,6	1 120	1,0
Race												
African	49	2,6	188	7,6	23	0,0	177	4,3	82	9,6	519	5,9
Indian	24	0,0	12	0,0	0	0,0	23	0,0	75	0,0	134	0,0
Coloured	111	0,0	8	0,0	8	0,0	13	0,0	5	0,0	145	0,0
White	287	0,0	171	0,0	92	0,0	415	0,2	117	0,0	1 082	0,1
Marital status												
Married	292	0,4	252	2,5	74	0,0	411	0,4	188	1,7	1 217	1,0
Not married	179	0,0	127	5,1	49	0,0	217	2,8	91	4,2	663	2,4
Parenting status												
Have children	275	0,4	295	4,3	73	0,0	443	1,4	190	1,3	1 276	1,7
No children	196	0,0	84	0,0	50	0,0	185	0,8	89	4,8	604	1,0
Faculty grouping												
Business	123	0,0	50	8,0	42	0,0	95	0,0	29	4,9	339	1,5
Humanities	97	0,0	125	4,1	24	0,0	222	0,3	110	2,7	578	1,5
Sciences	251	0,4	106	3,8	57	0,0	311	2,2	140	1,7	865	1,6
Absenteeism in past month												
Missed no classes	379	0,3	281	3,2	102	0,0	501	1,0	216	2,2	1479	1,3
Missed <3 days	82	0,0	79	3,2	15	0,0	113	2,4	53	1,8	342	1,8
Missed 3+ days	10	0,0	19	6,5	6	0,0	14	0,0	10	10,9	59	3,9
Medical Aid												
Yes	436	0,3	338	3,4	107	0,0	572	1,0	257	2,1	1710	1,4
No	35	0,0	41	3,1	16	0,0	56	3,5	22	7,2	170	2,8
Male circumcision												
Not circumcised	144	0,0	74	1,3	33	0,0	160	1,1	82	2,3	493	0,9
Yes <=10 yrs	88	0,0	57	3,2	5	0,0	94	1,0	45	0,0	289	1,0
Yes > 10 yrs	22	4,6	57	8,6	7	0,0	34	0,0	9	10,3	129	5,3
Males: reported STI symptoms-sore, discharge (of all who had sex in last year)												
Yes	4	25,3	2	0,0	0	0,0	2	0,0	5	19,9	13	15,2
No	208	0,0	169	3,9	38	0,0	254	0,3	112	1,6	781	1,2
Females: reported STI symptoms-sore, discharge (of all who had sex in last year)												
Yes	11	0,0	14	14,3	3	0,0	7	28,4	7	0,0	42	9,0
No	149	0,0	133	1,9	52	0,0	250	1,0	105	4,0	689	1,3
Males: experienced forced sex in the past year against will by threat or violence												
Yes	1	0,0	1	0,0	0	0,0	1	0,0	0	0,0	3	0,0
No	253	0,4	187	4,0	45	0,0	287	1,0	136	2,0	908	1,5
Females: experienced forced sex in the past year against will by threat or violence												
Yes	0	0,0	1	0,0	3	0,0	1	0,0	1	0,0	6	0,0
No	217	0,0	190	2,3	75	0,0	339	1,6	142	3,0	963	1,4

ACADEMIC STAFF

HIV prevalence, demographic and biological factors

Table 29a illustrates the distribution of demographic and physiologically-related risk factors among academic staff. These proportions inform interpretation of the HIV prevalence data described in Table 29b.

Table 29b shows that the mean HIV prevalence for academic staff was 1,5% [CI: 0,9%–2,3%]. The province with the highest HIV prevalence at 3,3% [CI: 1,6%–6,6%] was EC while FS was lowest at 0,0%. The prevalence of HIV was also low in WC where it was 0,2% [CI: 0,04%–1,6%].

Female academic staff, with an HIV prevalence of 1,4% [CI: 0,8%–2,5%], were as likely to be HIV positive as males – 1,5% [CI: 0,9%–2,5%].

The prevalence of HIV was highest amongst African academics – 5,9% [CI: 4,2%–7,3%], with no cases of HIV among Coloured and Indian academic staff. Only

0,1% of White academic staff were found to be HIV positive and these were all in the GAU/NW/LP region.

Academic staff who were married were significantly less likely to be HIV positive at 1,0% in comparison to the prevalence of 2,4% among those who were not married ($p=0,01$).

There was no association between HIV and faculty grouping.

Academic staff who were absent for three or more days in the past month were found to have higher HIV prevalence than those who were absent for less than three days – 3,9% versus 1,8%, but this was not statistically significant ($p=0,3$).

The vast majority of academic staff had medical aid, 92%. There was a significant difference in the HIV prevalence between those with and those without medical aid ($p=0,07$).

As with students, the prevalence of HIV was highest among males who were circumcised over 10 years

Table 30a Sexual practices among academic staff

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Sexual experience												
Ever had sex	428	92	362	96	110	90	591	94	260	94	1 751	94
Sex in past year (of ever had sex)	372	88	318	89	93	85	513	88	229	89	1 525	88
No sex in past year (reported)	56	12	44	11	17	15	78	12	31	11	226	12
Partners in past year (of ever sex)												
0	56	12	44	11	17	15	78	12	31	11	226	12
1	344	81	271	76	82	75	467	80	201	77	1 365	79
>1	28	7	47	14	11	10	46	8	28	11	160	9
Partners in past month (of sex in past year)												
0	39	11	53	16	10	11	50	10	20	9	172	11
1	325	87	250	79	78	83	447	87	203	89	1 303	85
>1	8	2	15	5	5	6	16	3	6	3	50	4

of age (5,3% [CI: 3,0% – 9,2%]) compared to those uncircumcised (0,9% [CI: 0,4% – 2,2%]) and those circumcised below 10 years of age (1,0% [CI: 0,3% – 2,8%]), $p < 0,001$. However when restricted to African male academic staff, the difference disappears: uncircumcised (5,4%); circumcised at less than 10 years of age (5,3%) and circumcised over age 10 (6,8%), $p=0,8$. The numbers circumcised among other racial groups was too small to analyse.

Table 29b shows a very strong association between the prevalence of HIV among males and females who reported symptoms of an STI (9,0% [CI: 3,0%–23,9%]; 15,2% [CI: 5,3% – 36,3%]) and this was significant ($p < 0,001$). The prevalence of HIV among males not reporting symptoms was 1,2% [CI: 0,6% – 2,2%]) and among females not reporting it was 1,3% [CI: 0,7% – 2,3%]).

HIV-related behaviours and practices

Table 30a illustrates the distribution of sexual practices among academic staff. These proportions inform interpretation of the HIV prevalence data described in Table 30b (below).

Among academic staff who reported having had sex before, HIV prevalence was 1,6%. Most academic staff who had previously had sex reported having had sex in the past year (88%), and HIV prevalence in this group was 1,5%.

Among academic staff who had sex in the past year, one in twelve (8%), had had more than one partner in the past month. This group had higher but not significantly different HIV prevalence in comparison to those with one partner in the past month – 8,3% vs. 1,5% ($p=0,1$).

Only 21% of male and 17% of female academic staff aged 25 and older reported using condoms at last sex. There was however a significant difference in condom use between academic staff who had one partner in comparison to more than one partner in the past year – 16% vs. 53% ($p < 0,001$) and among those who had two or more partners in the past month in comparison to one or none – 61% vs. 18% ($p < 0,001$).

Condom use at last sex among married academic staff was significantly lower than those who were not married – 12% vs. 44% ($p < 0,001$).

Table 30b HIV prevalence in relation to sexual practices among academic staff

(n=denominator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Sexual experience												
Ever had sex	428	0,3	362	3,5	110	0,0	591	1,3	260	2,6	1 751	1,6
Sex in past year (of ever had sex)	372	0,3	318	3,5	93	0,0	513	0,9	229	2,9	1 525	1,5
No sex in past year (reported)	56	0,0	44	3,1	17	0,0	78	4,4	31	0,0	226	2,1
Partners in past year (of ever sex)												
0	56	0,0	44	3,1	17	0,0	78	4,4	31	0,0	226	2,1
1	344	0,3	271	2,5	82	0,0	467	0,8	201	2,8	1 365	1,2
>1	28	0,0	47	9,1	11	0,0	46	1,5	28	3,9	160	3,8
Partners in past month (of sex in past year)												
0	39	0,0	53	2,1	10	0,0	50	2,6	20	0,0	172	1,4
1	325	0,3	250	2,7	78	0,0	447	0,7	203	2,7	1 303	1,3
>1	8	0,0	15	19,8	5	0,0	16	0,0	6	18,1	50	8,3

Table 31a Other HIV-related behaviours and practices among academic staff

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Sexual experience												
Ever had sex	428	92	362	96	110	90	591	94	260	94	1 751	94
Male, 25+	211	15	171	24	38	20	254	22	115	26	789	21
Female, 18-24	4	1	0	0	2	1	6	4	3	0	15	6
Female, 25+	156	15	147	23	53	16	251	14	109	22	716	17
1 partner in past year	344	13	271	18	82	13	467	16	201	20	13 365	16
2+ partner in past year	28	47	47	56	11	62	46	50	28	58	160	53
< 2 partners in past month	364	14	303	21	88	15	497	18	223	24	1 475	18
2+ partners in past month	8	49	15	65	5	78	16	75	6	33	50	63
Not married	97	34	81	45	23	39	126	47	63	54	390	44
Married	275	9	237	17	70	12	387	11	166	15	1 135	12
Relation to sex (of sex in past year)												
I am often tricked or pressurised into having sex when I don't want it (of had sex in past year)	372	0	318	3	93	0	513	1	229	1	1 525	1
I often expect money or gifts in exchange for sex (of had sex in past year)	372	0	318	1	93	0	513	1	229	0	1 525	1
HIV testing												
In past year	471	26	379	30	123	26	628	28	279	34	1 880	29
More than a year ago	471	40	379	40	123	46	628	43	279	43	1 880	42
Never	471	34	379	30	123	27	628	28	279	22	1 880	29
Substance use												
Drink alcohol never/occasionally	471	69	379	71	123	85	628	80	279	77	1 880	75
Drink alcohol weekly or more	471	31	379	29	123	15	628	20	279	23	1 880	25
Drunk in past month	471	16	379	14	123	11	628	13	279	14	1 880	14
Used marijuana in past month	471	3	379	4	123	3	628	1	279	3	1 880	2
Not used marijuana in past month	471	97	379	96	123	97	628	99	279	97	1 880	98
Injected drug in past month	471	0	379	1	123	0	628	0	279	0	1 880	0
Not Injected drug in past month	471	100	379	99	123	100	626	100	279	100	1 880	100

Only a small proportion of academic staff who had sex in the past year said that they were tricked or pressurised into having sex when they didn't want it (1%), and an equally low proportion reported expecting money or gifts in exchange for sex (1%).

Most academic staff reported drinking alcohol either occasionally or never (75%), with only 25% drinking once a week or more. However, 14% of academic staff,

including those who drank occasionally, reported being drunk in the past month.

Academic staff were asked whether or not they had used one or more named drugs in the past month. These included marijuana, cocaine, amphetamines, LSD, and heroin, among others. There was very low overall prevalence of recreational drug use among academic staff.

Table 31b HIV prevalence and other HIV-related behaviours and practices among academic staff

(n=denominator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Condom use at last sex (of sex in past year)	58	0,0	80	10,2	18	0,0	104	3,0	59	6,7	319	4,7
no Condom use at last sex (of sex in past year)	314	0,4	238	1,5	75	0,0	409	0,3	170	1,7	1 206	0,7
Relation to sex (of sex in past year)												
I am often tricked or pressurised into having sex when I don't want it (of had sex in past year)	2	0,0	8	26,3	0	0,0	5	0,0	2	0,0	17	13,7
I often expect money or gifts in exchange for sex (of had sex in past year)	0	0,0	4	64,6	0	0,0	6	0,0	0	0,0	10	23,5
HIV testing												
In past year	128	0,9	117	4,7	34	0,0	180	1,9	99	2,5	558	2,2
More than a year ago	190	0,0	152	2,4	57	0,0	273	0,6	117	3,0	789	1,1
Never	153	0,0	110	3,3	32	0,0	175	1,5	63	1,1	533	1,3
Substance use												
Drink alcohol never/occasionally	332	0,0	281	4,2	106	0,0	515	1,5	218	2,7	1 452	1,7
Drink alcohol weekly or more	139	0,8	98	1,1	17	0,0	113	0,0	61	1,6	428	0,7
Drunk in past month	75	0,0	51	8,3	13	0,0	78	0,9	38	2,6	255	2,3
Used marijuana in past month	15	0,0	12	0,0	3	0,0	3	0,0	8	12,5	41	2,4
Not used marijuana in past month	456	0,2	367	3,5	120	0,0	625	1,2	271	2,1	1 839	1,5
Injected drug in past month	2	0,0	3	0,0	0	0,0	2	0,0	1	0,0	8	0,0
Not Injected drug in past month	469	0,2	376	3,4	123	0,0	626	1,2	278	2,4	1 872	1,5

Table 32 Knowledge and attitudes related to HIV among academic staff

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Knowledge												
The more sexual partners you have, the more likely it is that you will be infected with HIV (True)	455	97	352	94	118	96	599	96	265	95	1 789	95
You can be infected with HIV by touching a person who is HIV positive (False)	457	97	349	93	120	98	603	96	264	94	1 793	95
A mother can pass HIV on to her baby through breastfeeding (True)	314	65	263	69	87	71	453	71	187	65	1 304	68
If a person is raped, there are drugs available that can prevent HIV infection (True)	354	74	271	72	104	85	488	77	222	79	1 439	76
It is against the law for a girl younger than 16 to have sex with an older man, even if she agrees to it (True)	429	91	320	85	108	89	553	88	248	89	1 658	88
There are drugs available called antiretrovirals that can help people with HIV and AIDS live longer (True)	458	97	363	96	118	96	604	96	265	95	1 808	96
Attitudes and perceptions related to sexual partnerships (Males)												
I believe that it is acceptable to have a one-night stand (Agree, Agree strongly)	45	17	26	13	3	7	40	14	18	13	132	14
It is acceptable to me for a man to have more than one girlfriend at a time (Agree, Agree strongly)	11	4	5	3	5	11	25	8	11	8	56	6
It is acceptable to me for a woman to have more than one boyfriend at a time (Agree, Agree strongly)	14	5	4	2	6	13	20	7	10	7	54	6
I believe it is acceptable for students to have sex for money to support their studies (Agree, Agree strongly)	4	1	3	2	3	7	9	3	2	1	21	2
Many of my friends have more than one current sexual partner (of all)	10	4	29	15	6	12	31	10	16	11	92	9
Attitudes and perceptions related to sexual partnerships (Females)												
I believe that it is acceptable to have a one-night stand (Agree, Agree strongly)	27	13	60	18	1	1	22	7	11	8	91	10
It is acceptable to me for a man to have more than one girlfriend at a time (Agree, Agree strongly)	9	4	6	3	2	3	12	4	4	2	33	3
It is acceptable to me for a woman to have more than one boyfriend at a time (Agree, Agree strongly)	9	4	7	4	2	3	13	4	2	1	33	3
I believe it is acceptable for students to have sex for money to support their studies (Agree, Agree strongly)	3	1	3	2	0	0	5	2	0	0	11	1
Many of my friends have more than one current sexual partner (of all)	8	4	13	6	3	4	15	4	9	6	48	5

Table 33 Exposures and perceptions related to HIV and AIDS among academic staff

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Community-level exposure to HIV and AIDS (past year)												
Someone I know personally has said they are HIV positive	54	10	127	31	13	10	110	16	69	24	373	18
Someone I know personally has died of AIDS	61	12	150	36	24	20	160	24	98	34	493	25
I know of a student or staff member who has died of AIDS	48	11	109	27	20	16	134	20	84	31	395	20
I have provided care to an HIV-positive child or adult in my household	8	2	45	10	6	5	39	5	25	8	123	6
I have missed classes or work to attend a funeral of a person who has died of AIDS	12	2	31	7	3	3	36	5	20	6	102	5
Perceptions related to living with HIV and AIDS												
It is a waste of money to provide further education to someone who is HIV positive (Disagree/ Disagree strongly)	434	92	333	87	109	88	553	87	263	94	1 692	89
If I told my friends at this institution that I had HIV, most of them would support me (Agree/Agree strongly)	231	49	209	55	83	67	389	62	161	59	1 073	43
If a teacher has HIV but is not sick, she/he should be allowed to continue teaching (Agree/Agree strongly)	437	93	345	91	109	89	569	90	257	91	1 717	91
Exposure to violence and harassment												
I feel safe from physical harm at this institution (Agree/Agree strongly)	359	77	261	71	92	76	444	72	132	48	1 288	70
Violent crime where people are physically injured is a serious problem at this institution (Agree/Agree strongly)	68	15	78	20	16	14	91	15	71	26	324	17
Female students are safe from sexual harassment at this institution (Agree/Agree strongly)	201	42	166	44	60	49	294	47	83	28	804	43

HIV prevalence among those who used a condom at last sex (4,7%) was much higher than among those that did not use a condom (0,7%) ($p<0,001$).

There were no significant associations between substance use and HIV prevalence.

Around a quarter of academic staff, 29%, had never tested for HIV, and of this group, 1,3% were HIV positive. In the EC however, some 3,3% of those who had never tested were found to be HIV positive in this

study. Of the remainder of academic staff, around two fifths (42%) had tested more than a year ago, and around a third (29%) had tested in the past year. Among these two groups, HIV prevalence was 1,1% and 2,2% respectively.

Knowledge, attitudes and norms

Knowledge and attitudes among academic staff are similar between provincial groupings. Overall knowledge of HIV was high, but somewhat lower

Table 34 Perceptions of leadership and responses related to HIV and AIDS among academic staff

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Perceptions of management and student leadership (Agree, Agree strongly)												
The management of this institution take HIV and AIDS seriously	328	70	266	71	71	59	366	59	133	48	1 164	63
The student leaders of this institution take HIV and AIDS seriously	277	59	227	61	59	50	298	49	110	39	971	53
There should be more emphasis on HIV and AIDS in academic classes at this institution	244	51	252	64	73	59	390	61	220	78	1 179	61
Knowledge of support infrastructure (Yes)												
If you discovered you were HIV positive, is there a place at this institution where you could go for help and support	284	60	258	69	77	62	373	59	174	63	1 166	62
Involvement in HIV and AIDS activities in the past year (Yes)												
I have attended a meeting or function about HIV and AIDS at this institution	118	25	161	41	26	21	147	22	110	40	562	29
I have received information in the form of leaflets or booklets about HIV and AIDS at this institution	204	44	243	64	37	30	273	43	150	54	907	48
I have obtained free condoms at this institution	103	21	107	27	14	13	125	19	92	33	441	23
I have worn a t-shirt, cap, red ribbon or other item of clothing with an AIDS message at this institution.	90	18	95	24	17	14	107	16	69	24	378	19
I am a member of an HIV and AIDS club or organisation at this institution	11	2	28	6	6	4	25	3	18	6	88	4
I have been involved in conducting HIV and AIDS research while I have been a student or have been working at this institution	73	15	66	16	20	17	82	13	45	16	286	15

on two key statements: knowledge of HIV transmission through breastfeeding, which only around two thirds answered correctly (68%), and the availability of post-exposure prophylaxis in the case of rape which was answered correctly by three quarters of academic staff (76%).

In relation to attitudes to sexual partnerships, there was an overall low agreement with statements related to promiscuity, with the exception of male academic staff in response to the statement “It is acceptable to have a one-night-stand”, where 14% were

in agreement. One in ten male academic staff (10%) agreed that many of their friends had more than one current sexual partner.

Exposures and vulnerabilities related to HIV and AIDS

Around one in six academic staff (18%) indicated that a person they knew personally had said they were HIV positive in the past year. This was highest in EC (31%) and KZN (24%) which are the provinces with the highest HIV prevalence. A quarter of

Table 35 Exposure, two days a week or more, by medium

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Communication mediums												
Listen to radio	400	85	288	77	102	83	541	86	232	83	1 563	83
Watch television	384	82	334	88	115	93	563	90	249	89	1 645	87
Read a magazine	196	43	159	43	53	43	283	47	118	43	809	44
Read a newspaper	306	67	265	71	70	60	355	58	188	68	1 184	65
Use the internet	448	95	350	93	117	94	582	93	256	92	1 753	93
Use e-mail	458	98	359	95	120	97	610	97	266	96	1 813	97
Contacted an HIV and AIDS helpline in past year												
Yes	3	1	13	3	1	1	19	3	11	3	47	2

academic staff (25%) mentioned that they personally knew someone who had died of AIDS in the past year, and a fifth (20%) indicated that they knew of a student or staff member who had died of AIDS in the past year.

With regard to providing care to an HIV-positive child or adult in their household in the past year, 6% said they had done so, while 5% said they had missed classes or work to attend a funeral of a person who had died of AIDS.

Supportive attitudes to people living with HIV were overall high, with around nine out of ten academic staff being accepting of HIV-positive people. However, there was a strong sense among academic staff, that if they themselves were found to be HIV positive, they would not be supported – only 43% agreed that their friends at the institution would support them.

Around two thirds of academic staff (70%) said that they were safe from physical harm at the institution. Perceptions that physical injury through violent crime was a problem were held by 17% of academic staff, while only around two fifths (43%) agreed that female students were safe from sexual harassment at the institution.

Perceptions of leadership and responses related to HIV and AIDS

There was not strong agreement with the statements related to management and student leaders taking HIV and AIDS seriously with only 63% agreeing that management did so, and only 53% agreeing that student leaders did so. Around two thirds (61%) felt that there should be more emphasis on HIV and AIDS in academic classes. A similar proportion (62%) knew of a place at the institution they could go for help if they discovered they were HIV positive.

The predominant forms of engagement with HIV and AIDS at the institutions in the past year were receiving information in the form of leaflets or booklets, and attending a meeting or function about HIV and AIDS. Only 4% were involved in an HIV and AIDS club or organisation at the institution, although 15% said they had been involved in HIV and AIDS research.

Exposure to communication

The majority of academic staff listened to the radio (83%) or watched television (87%) two days a week or more. Nearly half read a magazine (44%) and around two thirds read newspapers (65%) two days a week or more.

Table 36 Response to: "Have any of the following made you take HIV and AIDS more seriously in the past year?" among academic staff

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Campus radio programmes	8	2	35	8	3	3	29	4	9	3	84	4
Campus newspaper articles	36	7	44	11	4	3	51	8	15	5	150	7
Leaflets, booklets or posters at this institution	45	10	87	21	11	8	97	15	36	12	276	14
HIV and AIDS activities at this institution	63	13	117	29	11	8	90	14	63	21	344	18
Knowing or talking to someone with HIV	67	13	123	29	24	19	123	18	73	25	410	20
Knowing someone who has died of AIDS	55	11	141	34	22	18	141	21	90	31	449	22
AIDS statistics	143	30	158	39	34	28	204	31	114	40	653	34
Talking to a health worker	49	10	99	24	15	11	86	13	56	18	305	15
Having an HIV test	68	14	96	23	13	10	117	17	63	22	357	18
Talking to friends	78	16	125	30	27	20	144	21	86	29	460	23
Talking to family members	60	12	123	29	21	15	139	20	66	22	409	20
Information on the internet	72	15	116	28	18	15	121	18	63	21	309	19

Internet and email use was very high, with 93% using the internet and 97% using email two days a week or more. Only 2% had contacted an HIV and AIDS helpline in the past year.

When academic staff were asked about communication that had made them take HIV and AIDS more seriously in the past year, there was very low mention of campus radio programmes (4%) or campus newspaper articles (7%). Leaflets, booklets, or posters (14%) and HIV and AIDS activities at the institutions (18%) did however garner somewhat higher register. Among other communication, AIDS statistics and talking to friends, were most influential.

ADMINISTRATIVE STAFF

HIV prevalence, demographic and biological factors

Table 37a illustrates the distribution of demographic and physiologically-related risk factors among administrative staff.

These proportions inform interpretation of the HIV prevalence data described in Table 37b.

The mean HIV prevalence for administrative staff was 4,4% [CI: 3,2%–6,0%]. The province with the highest HIV prevalence at 9,2% [CI: 4,9%–16,5%] was KZN while WC was lowest at 0,9% [CI: 0,5%–1,6%].

Female administrative staff, at an HIV prevalence of 3,1% [CI: 2,1%–4,5%], were less likely to be HIV positive compared to males – 6,2% [CI: 4,1%–9,3%] ($p=0,006$).

The prevalence of HIV was highest amongst African administrative staff – 11,5% [CI: 8,8%–14,8%], with almost no cases of HIV among White administrative staff, and low prevalence among Coloureds (0,3%, [CI: 0,08%–1,4%]) and Indians (1,7%, [CI: 0,3%–8,3%]).

Administrative staff who were married were significantly less likely to be HIV positive at 3,2% [CI: 2,1%–4,8%]) in comparison to the prevalence of 5,9% [CI: 4,1%–8,3%]) among those who were not married ($p=0,004$).

Table 37a Distribution of demographic and risk factors among administrative staff

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
All (denominator)	889	27	423	11	203	7	1 092	38	355	18	2 962	100
Sex												
Male	294	40	144	39	69	46	394	39	180	46	1 081	41
Female	595	60	279	61	134	54	698	61	175	54	1 881	59
Age group												
< 40	388	38	216	46	61	31	483	41	188	50	1 286	41
40+	551	62	207	54	142	69	609	59	167	50	1 676	59
Race												
African	138	11	245	49	66	30	612	44	229	48	1 290	36
Indian	16	2	15	6	3	2	59	6	85	34	178	10
Coloured	466	57	49	15	27	15	66	8	7	3	615	21
White	269	31	114	30	107	53	355	42	34	15	879	34
Marital status												
Married	529	61	218	56	122	64	534	52	166	53	1 569	56
Not married	360	39	205	44	81	36	558	48	189	47	1 393	44
Parenting status												
Have children	654	73	315	76	159	79	801	73	271	75	2 200	74
No children	235	27	108	24	44	21	291	27	84	25	762	26
Absenteeism in past month												
Missed no classes	570	64	237	56	145	69	718	67	204	49	1 874	62
Missed <3 days	235	26	127	31	42	23	241	21	92	34	737	26
Missed 3+ days	84	10	59	13	16	8	133	12	59	17	351	12
Medical Aid												
Yes	791	89	322	80	169	85	816	76	283	84	2 381	82
No	98	11	101	21	34	15	276	24	72	16	581	18
Male circumcision												
Not circumcised	175	60	46	31	43	67	182	53	124	65	570	56
Yes <=10 yrs	71	25	14	11	4	7	69	15	16	12	174	16
Yes > 10 yrs	48	15	84	58	22	26	143	32	40	24	337	28
Males: reported STI symptoms-sore, discharge (of all who had sex in last year)												
Yes	11	4	7	4	2	4	27	8	14	10	61	7
No	231	96	117	96	51	96	286	92	137	90	822	93
Females: reported STI symptoms-sore, discharge (of all who had sex in last year)												
Yes	35	8	23	9	3	3	45	6	22	12	128	8
No	423	92	200	91	78	97	473	94	107	88	1 281	92
Males: experienced forced sex in the past year against will by threat or violence												
Yes	0	0	1	0	2	3	7	1	3	2	13	1
No	294	100	143	100	67	97	387	99	177	98	1 068	99
Females: experienced forced sex in the past year against will by threat or violence												
Yes	2	0	2	1	0	0	12	1	3	3	19	1
No	593	100	277	99	134	100	686	99	172	97	1 862	99

Table 37b HIV prevalence in relation to demographic and risk factors among administrative staff

(n=denominator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
All	889	0,9	423	6,0	203	2,9	1 092	4,3	355	9,2	2 962	4,4
Sex												
Male	294	0,7	144	7,0	69	3,9	394	7,3	180	11,9	1 081	6,2
Female	595	1,1	279	5,4	134	1,9	698	2,4	175	6,7	1 881	3,1
Age group												
< 40	388	1,5	216	9,0	61	1,0	483	4,5	188	7,0	1 286	4,7
40+	551	0,5	207	3,6	142	3,7	609	4,2	167	11,2	1 676	4,1
Race												
African	138	8,4	245	11,5	66	8,5	612	8,9	229	18,2	1 290	11,5
Indian	16	0,0	15	0,0	3	0,0	59	5,1	85	0,8	178	1,7
Coloured	466	0,0	49	2,7	27	2,3	66	0,0	7	0,0	615	0,3
White	269	0,0	114	0,0	107	0,0	355	0,2	34	1,1	879	0,2
Marital status												
Married	529	0,5	218	4,8	122	2,9	534	3,4	166	6,3	1 569	3,2
Not married	360	1,6	205	7,6	81	2,9	558	5,3	189	12,4	1 393	5,9
Parenting status												
Have children	654	0,7	315	5,7	159	3,1	801	5,6	271	10,2	2 200	5,0
No children	235	1,4	108	7,2	44	2,1	291	0,9	84	6,0	762	2,7
Absenteeism in past month												
Missed no classes	570	0,3	237	5,5	145	3,2	718	3,6	204	7,5	1 874	3,4
Missed <3 days	235	2,0	127	6,5	42	0,0	241	3,2	92	10,5	737	4,9
Missed 3+ days	84	2,0	59	7,3	16	8,3	133	10,0	59	11,1	351	8,2
Medical Aid												
Yes	791	1,0	322	4,8	169	1,7	816	2,7	283	7,8	2 381	3,3
No	98	0,0	101	11,0	34	9,3	276	9,3	72	16,0	581	9,1
Male circumcision												
Not circumcised	175	0,8	46	3,2	43	5,9	182	6,4	124	11,6	570	5,8
Yes <=10 yrs	71	0,0	14	0,0	4	0,0	69	2,3	16	11,1	174	2,4
Yes > 10 yrs	48	1,3	84	10,4	22	0,0	143	11,2	40	13,2	337	9,3
Males: reported STI symptoms-sore, discharge (of all who had sex in last year)												
Yes	11	5,5	7	35,4	2	0,0	27	18,2	14	30,0	61	20,1
No	231	0,6	117	7,3	51	5,5	286	7,3	137	11,0	822	6,1
Females: reported STI symptoms-sore, discharge (of all who had sex in last year)												
Yes	35	1,6	23	10,3	3	0,0	45	4,2	22	13,4	128	6,5
No	423	1,2	200	4,7	78	2,1	473	2,2	107	6,2	1 281	2,8
Males: experienced forced sex in the past year against will by threat or violence												
Yes	0	0,0	1	0,0	2	0,0	7	0,0	3	84,6	13	25,7
No	294	0,7	143	7,1	67	4,0	387	7,4	177	10,7	1 068	6,0
Females: experienced forced sex in the past year against will by threat or violence												
Yes	2	0,0	2	0,0	0	0,0	12	4,6	3	88,0	19	37,0
No	593	1,1	277	5,5	134	1,9	686	2,4	172	4,2	1 862	2,6

Table 38a Sexual practices among administrative staff

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Sexual experience												
Ever had sex	828	93	398	94	161	80	970	88	326	91	2 683	90
Sex in past year (of ever had sex)	700	85	347	87	134	85	831	85	280	86	2 292	85
No sex in past year (reported)	128	15	51	13	27	15	139	15	46	14	391	15
Partners in past year (of ever had sex)												
0	128	15	51	13	27	15	139	15	46	14	391	15
1	627	76	281	71	116	72	672	69	220	69	1 916	71
>1	73	9	66	16	18	13	159	16	60	18	376	14
Partners in past month (of sex in past year)												
0	89	12	49	16	18	14	115	13	41	16	312	14
1	588	84	270	75	109	81	637	78	214	76	1 818	79
>1	23	4	28	9	7	5	79	9	25	7	162	7

Table 38b HIV prevalence in relation to sexual practices among administrative staff

(n=denominator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Sexual experience												
Ever had sex	828	1,0	398	6,3	161	3,6	970	4,2	326	9,6	2 683	4,5
Sex in past year (of ever had sex)	700	1,1	347	6,5	134	3,7	831	4,6	280	10,0	2 292	4,8
No sex in past year (reported)	128	0,0	51	4,8	27	2,9	139	2,0	46	7,3	391	2,8
Partners in past year (of ever sex)												
0	128	0,4	51	4,8	27	2,9	139	2,0	46	7,3	391	2,8
1	627	1,2	281	6,3	116	4,4	672	3,9	220	7,4	1 916	4,0
>1	73	0,0	66	7,5	18	0,0	159	7,8	60	20,0	376	8,7
Partners in past month (of sex in past year)												
0	89	0,0	49	4,7	18	6,8	115	3,5	41	5,5	312	3,5
1	588	1,1	270	5,5	109	3,4	637	4,2	214	11,0	1 818	4,6
>1	23	2,7	28	18,3	7	0,0	79	9,4	25	9,3	162	9,4

Table 39a Other HIV-related behaviours and practices among administrative staff

(n=denominator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Condom use at last sex (of sex in past year)												
Male, 18-24	1	100	7	11	4	44	28	47	8	86	48	52
Male, 25+	241	23	117	37	49	30	285	34	143	31	835	30
Female, 18-24	19	43	30	65	3	0	59	66	4	45	115	59
Female, 25+	439	19	193	26	78	17	459	21	125	30	1 294	22
1 partner in past year	627	18	281	26	116	19	672	26	220	27	1 916	24
2+ partner in past year	73	48	66	60	18	48	159	42	60	49	376	47
< 2 partners in past month	677	21	319	29	127	20	752	28	255	30	2 130	26
2+ partners in past month	23	50	28	64	7	87	79	38	25	53	162	49
Not married	229	40	156	49	32	52	358	48	135	50	910	47
Married	471	13	191	21	102	16	473	18	145	18	1 382	17
Relation to sex (of sex in past year) n=numerator												
I am often tricked or pressurised into having sex when I don't want it (of had sex in past year)	8	1	16	4	3	2	40	4	9	2	76	3
I often expect money or gifts in exchange for sex (of had sex in past year)	6	1	9	2	4	3	8	1	7	2	34	1
HIV testing n=numerator												
In past year	291	31	146	35	54	24	316	26	144	32	951	29
More than a year ago	332	37	136	32	60	29	339	33	103	29	970	33
Never	266	32	141	34	89	47	437	41	108	39	1 041	37
Substance use n=numerator												
Drink alcohol never/occasionally	738	83	371	88	177	87	988	89	316	88	2 590	87
Drink alcohol weekly or more	151	17	52	12	26	13	104	11	39	12	372	13
Drunk in past month	158	19	106	25	34	19	214	21	83	25	595	21
Used marijuana in past month	22	3	11	3	2	1	36	3	14	4	85	3
Not used marijuana in past month	867	97	412	97	201	99	1 056	97	341	96	2 877	97
Injected drug in past month	6	1	4	1	2	1	10	1	6	3	28	1
Not Injected drug in past month	883	99	419	99	201	99	1 082	99	349	97	2 934	99

Among those who were absent for three or more days in the past month, 8,2% were found to be HIV positive, in comparison to those who were absent for less than three days – 4,9%, or those who were never absent in the last month – 3,4% ($p=0,11$).

Males who were circumcised when they were older than 10 years old had higher HIV prevalence. However, when African males were analysed separately the difference was not significant ($p=0,2$).

HIV prevalence was significantly associated with reported symptoms of an STI among males and females. Some 20% [CI: 8,8%–39,5%] of males and 6,5% [CI: 2,8%–14,2%] of females who reported STI symptoms in the last year were HIV positive in comparison to 6,1% [CI: 4,1%–9,0%] of males and 2,8% [CI: 1,7%–4,7%] of women ($p<0,001$, $p=0,08$).

HIV-related behaviours and practices

Table 38a illustrates the distribution of sexual practices among administrative staff. These proportions inform interpretation of the HIV prevalence data described in Table 38b.

Among the majority of administrative staff who reported having had sex before, HIV prevalence was 4,5%. Most administrative staff who had previously had sex reported having had sex in the past year (85%), and HIV prevalence in this group was 4,8%.

Among administrative staff who had ever had sex, 15% had not had sex in the past year. The prevalence of HIV among the 14% of administrative staff who had two or more partners in the past year was higher than those with only one partner – 8,7% vs. 4,0% ($p=0,001$).

Among administrative staff who had sex in the past year, 7% had had more than one partner in the past month. This group had higher HIV prevalence than those with one partner in the past month – 9,4% vs. 4,6% ($p=0,04$).

Apart from the small number of administrative staff aged under 25, among those who had sex in the past

year 30% of males and 20% of females aged 25 and older reported using condoms at last sex.

There was a significant difference in condom use between administrative staff who had one partner in comparison to more than one partner in the past year – 24% vs. 47% ($p<0,001$) and among those who had two or more partners in the past month where reported condom use was 49% vs. 26% for those with one or no partners ($p<0,001$).

Only a small proportion of administrative staff who had sex in the past year said that they were tricked or pressurised into having sex when they didn't want it (3%), and an equally low proportion reported expecting money or gifts in exchange for sex (1%).

Most administrative staff reported drinking alcohol either occasionally or never (87%), with only 13% drinking once a week or more. However, 21% of administrative staff, including those who drank occasionally, reported being drunk in the past month.

Administrative staff were asked whether or not they had used one or more named drugs in the past month. These included marijuana, cocaine, amphetamines, LSD, and heroin, among others. There was very low overall prevalence of recreational drug use among administrative staff.

Around a third of administrative staff (37%), had never tested for HIV, and of this group, 4,1% were HIV positive. In the EC however, some 7,3% of those who had never tested were found to be HIV positive in this study. Of the remainder of administrative staff, a third (33%) had tested more than a year ago, and just less than a third (29%) had tested in the past year. Among these two groups, HIV prevalence was 4,0% and 5,1% respectively.

HIV prevalence among those who drink weekly or more was 1,8% in comparison to 4,8% among those that never or only occasionally drink and this difference was significant ($p=0,02$). The highest prevalence of HIV (7,8%) was among the 21% of administrative staff who reported being drunk in the past month. This was significantly greater than the HIV prevalence

Table 39b HIV prevalence and other HIV-related behaviours and practices among administrative staff

(n=denominator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Condom use at last sex (of sex in past year)												
Yes	160	3,5	121	13,3	29	13,1	272	10,6	102	12,8	684	10,0
No	540	0,4	226	3,2	105	0,8	559	2,2	178	8,7	1 608	2,8
Relation to sex (of sex in past year)												
I am often tricked or pressurised into having sex when I don't want it (of had sex in past year) yes	8	0,0	16	0,0	3	0,0	40	12,1	9	8,7	76	7,7
I often expect money or gifts in exchange for sex (of had sex in past year) yes	6	0,0	9	0,0	4	30,8	8	0,0	7	14,6	34	9,0
HIV testing												
In past year	291	1,9	146	5,2	54	1,8	316	4,7	144	11,0	951	5,1
More than a year ago	332	0,8	136	5,7	60	2,3	339	2,7	103	12,9	970	4,0
Never	266	0,0	141	7,3	89	3,8	437	5,3	108	4,8	1 041	4,1
Substance use												
Drink alcohol never/occasionally	738	1,0	371	6,6	177	3,3	988	4,6	316	9,7	2 590	4,8
Drink alcohol weekly or more	151	0,4	52	2,4	26	0,0	104	1,8	39	5,1	372	1,8
Drunk in past month	158	0,7	106	11,1	34	3,4	214	7,7	83	15,0	595	7,8
Used marijuana in past month	22	0,0	11	7,8	2	0,0	36	3,8	14	23,4	85	7,3
Not used marijuana in past month	867	0,9	412	6,0	201	2,9	1 056	4,3	341	8,6	2 877	4,3
Injected drug in past month	6	0,0	4	0,0	2	0,0	10	0,0	6	13,2	28	5,3
Not Injected drug in past month	883	0,9	419	6,1	201	2,9	1 082	4,4	349	9,0	2 934	4,4

among those who were not drunk in the past month – 3,4% ($p=0,003$).

Knowledge, attitudes and norms

Overall knowledge of HIV among administrative staff was high, but was inadequate on two key statements: knowledge of HIV transmission through breastfeeding, which only 58% answered correctly, and the availability of post-exposure prophylaxis in the case of rape which was answered correctly by two thirds of administrative staff (66%).

In relation to attitudes to sexual partnerships, there was an overall low agreement with statements

related to promiscuity, with the exception of male administrative staff in response to the statements “It is acceptable to have a one-night-stand”, where 16% agreed, and “It is acceptable to me for a man to have more than one girlfriend”, where 14% agreed. Around one in five male administrative staff (18%) believed that many of their friends had more than one current sexual partner, as did one in twelve (8%) of females.

Exposures and vulnerabilities related to HIV and AIDS

One in five administrative staff (20%) indicated that a person they knew personally had said they were

Table 40 Knowledge and attitudes related to HIV among administrative staff

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Knowledge												
The more sexual partners you have, the more likely it is that you will be infected with HIV (True)	819	92	356	86	189	94	970	89	302	87	2 636	90
You can be infected with HIV by touching a person who is HIV positive (False)	845	95	398	95	183	90	1010	93	315	90	2 751	93
A mother can pass HIV on to her baby through breastfeeding (True)	516	56	282	66	116	57	694	62	185	50	1 793	58
If a person is raped, there are drugs available that can prevent HIV infection (True)	593	65	274	64	147	73	719	67	210	63	1 943	66
It is against the law for a girl younger than 16 to have sex with an older man, even if she agrees to it (True)	792	89	336	80	170	86	897	82	276	75	2 471	83
There are drugs available called antiretrovirals that can help people with HIV and AIDS live longer (True)	829	93	387	93	181	90	986	90	310	88	2 693	91
Attitudes and perceptions related to sexual partnerships (Males) (n=numerator)												
I believe that it is acceptable to have a one-night stand (Agree, Agree strongly)	53	18	23	17	9	12	79	19	23	10	187	16
It is acceptable to me for a man to have more than one girlfriend at a time (Agree, Agree strongly)	37	12	17	11	8	13	48	14	27	18	137	14
It is acceptable to me for a woman to have more than one boyfriend at a time (Agree, Agree strongly)	32	11	13	11	6	9	34	9	9	6	94	9
I believe it is acceptable for students to have sex for money to support their studies (Agree, Agree strongly)	4	2	5	3	2	3	18	6	4	2	33	4
Many of my friends have more than one current sexual partner (agree)	35	10	32	21	17	24	107	24	36	16	227	18
Attitudes and perceptions related to sexual partnerships (Females) (n=numerator)												
I believe that it is acceptable to have a one-night stand (Agree, Agree strongly)	46	8	22	8	6	5	35	4	13	12	122	7
It is acceptable to me for a man to have more than one girlfriend at a time (Agree, Agree strongly)	21	4	9	3	8	6	23	3	4	1	65	3
It is acceptable to me for a woman to have more than one boyfriend at a time (Agree, Agree strongly)	21	4	12	4	7	5	27	3	4	1	71	3
I believe it is acceptable for students to have sex for money to support their studies (Agree, Agree strongly)	16	3	7	2	1	1	9	1	5	1	38	1
Many of my friends have more than one current sexual partner (agree)	34	5	32	10	10	7	74	9	20	11	170	8

Table 41 Exposures and vulnerabilities related to HIV and AIDS among administrative staff

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Community-level exposure to HIV and AIDS (past year)												
Someone I know personally has said they are HIV positive	108	10	158	36	41	18	255	21	104	25	666	20
Someone I know personally has died of AIDS	135	13	174	39	66	32	420	34	154	34	949	29
I know of a student or staff member who has died of AIDS	54	6	107	26	46	23	204	19	77	18	488	16
I have provided care to an HIV-positive child or adult in my household	31	2	56	15	13	6	87	7	47	8	234	7
I have missed classes or work to attend a funeral of a person who has died of AIDS	27	3	51	13	13	6	125	10	51	11	267	8
Perceptions related to living with HIV and AIDS n=numerator												
It is a waste of money to provide further education to someone who is HIV positive (Disagree/ Disagree strongly)	779	87	377	88	147	73	928	85	303	85	2 534	85
If I told my friends at this institution that I had HIV, most of them would support me (Agree/Agree strongly)	336	37	197	46	58	29	368	34	122	38	1 081	37
If a teacher has HIV but is not sick, she/he should be allowed to continue teaching (Agree/Agree strongly)	788	88	366	86	177	88	955	86	299	84	2 585	86
Exposure to violence and harassment n=numerator												
I feel safe from physical harm at this institution (Agree/Agree strongly)	561	64	293	71	111	57	733	69	180	52	1 878	64
Violent crime where people are physically injured is a serious problem at this institution (Agree/Agree strongly)	215	24	77	18	38	20	182	16	76	20	588	19
Female students are safe from sexual harassment at this institution (Agree/Agree strongly)	313	34	199	47	67	36	502	46	118	32	1 199	40

HIV positive in the past year. This was highest in EC (36%). Around a third of administrative staff (29%) mentioned that they personally knew someone who had died of AIDS in the past year, and 16% indicated that they knew of a student or staff member who had died of AIDS in the past year.

With regard to providing care to an HIV-positive child or adult in their household in the past year, 7% said they had done so, while 8% said they had missed classes or work to attend a funeral of a person who had died of AIDS.

Supportive attitudes to people living with HIV were overall high, with around nine out of ten administrative staff being accepting of HIV-positive people. However, there was a strong sense among administrative staff that if they themselves were found to be HIV positive they would not be supported – only 37% agreed that their friends at the institution would support them.

Around two thirds of administrative staff (64%) said that they were safe from physical harm at the institution. However, perceptions that physical injury through violent crime was a problem were held by 19% of administrative

Table 42 Perceptions of leadership and responses related to HIV and AIDS among administrative staff

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Perceptions of management and student leadership (Agree, Agree strongly)												
The management of this institution take HIV and AIDS seriously	616	69	279	69	125	64	612	58	164	56	1 796	62
Knowledge of support infrastructure (Yes) n=numerator												
If you discovered you were HIV positive, is there a place at this institution where you can go for help and support	588	66	326	75	136	65	637	59	227	61	1 914	64
Involvement in HIV and AIDS activities in the past year (Yes) n=numerator												
I have attended a meeting or function about HIV and AIDS at this institution	258	28	184	42	56	30	304	28	104	20	906	28
I have received information in the form of leaflets or booklets about HIV and AIDS at this institution	446	50	259	62	81	40	521	46	188	52	1 495	49
I have obtained free condoms at this institution	260	29	198	46	29	14	404	32	174	44	1 065	34
I have worn a t-shirt, cap, red ribbon or other item of clothing with an AIDS message at this institution.	266	28	121	29	27	14	269	24	91	26	774	25
I am a member of an HIV and AIDS club or organisation at this institution	25	3	38	10	7	2	55	5	24	3	149	4
I have been involved in conducting HIV and AIDS research while I have been a student or have been working at this institution	69	8	50	12	13	6	100	10	38	8	270	9

staff, while only 40% agreed that female students were safe from sexual harassment at the institution.

Perceptions of leadership and responses related to HIV and AIDS

Around two thirds (62%) of administrative staff agreed with the statement that management take HIV and AIDS seriously. A similar proportion – 64%, knew of a place at the institution they could go for help if they discovered they were HIV positive.

The predominant forms of engagement with HIV and AIDS at the institutions in the past year were receiving information in the form of leaflets or booklets (49%) and obtaining free condoms (34%). Only 4% of administrative staff were involved in an HIV and AIDS club

or organisation at the institution, although 9% said they had been involved in HIV and AIDS research.

Exposure to communication

The majority of administrative staff listened to the radio (84%) or watched television (90%) two days a week or more. Around half read a magazine (46%) and around two thirds read newspaper (61%) two days a week or more.

Internet and email use was high, with 79% using the internet and 86% using email two days a week or more. A small proportion (6%) contacted an HIV and AIDS helpline in the past year.

When administrative staff were asked about communication that had made them take HIV and

Table 43 Exposure, two days a week or more, by medium

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Communication mediums												
Listen to radio	766	86	351	83	171	83	908	85	301	83	2 497	84
Watch television	818	92	387	91	191	94	973	90	318	87	2 687	90
Read a magazine	402	45	194	47	109	53	502	47	168	44	1 375	46
Read a newspaper	534	60	274	65	127	62	645	58	231	66	1 811	61
Use the internet	782	88	346	82	167	81	795	74	264	72	2 354	79
Use e-mail	844	95	361	86	180	88	880	83	280	79	2 545	86
Contacted an HIV and AIDS helpline in past year												
Yes	24	3	38	8	10	5	89	7	27	5	188	6

Table 44 Response to “Have any of the following made you take HIV and AIDS more seriously in the past year?” among administrative staff

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Campus radio programmes	74	8	79	18	23	10	170	14	47	12	393	12
Campus newspaper articles	169	19	129	29	39	20	258	22	86	22	681	22
Leaflets, booklets or posters at this institution	245	27	165	37	51	26	384	33	113	27	958	30
HIV and AIDS activities at this institution	227	25	168	38	46	24	280	24	101	22	822	25
Knowing or talking to someone with HIV	166	16	170	38	55	28	335	26	142	35	868	27
Knowing someone who has died of AIDS	165	16	191	42	71	35	387	32	135	33	949	29
AIDS statistics	264	28	155	36	58	29	361	30	125	31	963	30
Talking to a health worker	180	19	140	31	40	18	276	23	98	25	734	23
Having an HIV test	254	27	153	32	50	23	334	28	137	31	928	28
Talking to friends	234	24	186	40	74	36	430	35	153	32	1 077	32
Talking to family members	217	23	177	38	72	34	382	31	157	33	1 005	30
Information on the internet	207	22	140	32	53	26	316	25	106	28	822	26

AIDS more seriously in the past year, there was low mention of campus radio programmes (12%) with only 22% mentioning campus newspaper articles. Leaflets, booklets, or posters (30%) and HIV and AIDS activities at the institutions (25%) garnered somewhat higher register. Among other communication, AIDS statistics and talking to friends, were noted to be most influential.

SERVICE STAFF

HIV prevalence, demographic and biological factors

Table 45a illustrates the distribution of demographic and physiologically-related risk factors among service staff. These proportions inform interpretation of the HIV prevalence data described in Table 45b.

Table 45a Distribution of demographic and risk factors among service staff

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
All (denominator)	165	11	337	18	133	9	648	44	188	18	1 471	100
Sex												
Male	72	52	152	47	36	33	333	51	103	53	696	49
Female	93	48	185	53	97	67	315	49	85	47	775	51
Age group												
< 40	61	34	143	39	25	17	267	36	70	34	566	34
40+	104	66	194	61	108	83	381	64	118	66	905	66
Race												
African	30	11	277	75	115	86	562	79	152	67	1 136	69
Indian	4	3	0	0	0	0	5	1	30	28	39	6
Coloured	100	67	36	17	2	1	11	3	3	3	152	12
White	31	18	24	9	16	13	70	17	3	2	144	13
Marital status												
Married	92	57	136	42	53	42	317	48	96	59	694	49
Not married	73	43	201	58	80	58	331	52	92	41	777	51
Parenting status												
Have children	120	72	286	83	120	90	541	81	177	94	1 244	84
No children	45	28	51	17	13	10	107	19	11	6	227	16
Absenteeism in past month												
Missed no classes	92	56	145	44	89	66	330	51	106	44	762	50
Missed <3 days	45	28	111	33	17	12	176	26	43	27	392	26
Missed 3+ days	28	16	81	23	27	21	142	24	39	29	317	23
Medical Aid												
Yes	113	68	162	49	45	36	350	58	94	65	764	57
No	52	32	175	51	88	64	298	42	94	35	707	43
Male circumcision												
Not circumcised	40	57	27	22	19	51	133	43	79	82	298	49
Yes <=10 yrs	14	21	10	7	0	0	48	15	4	4	76	11
Yes > 10 yrs	18	22	115	71	17	49	152	42	20	14	322	40
Males: reported STI symptoms-sore, discharge (of all who had sex in last year)												
Yes	3	6	17	13	2	9	45	19	11	8	78	13
No	44	94	108	87	20	91	208	81	80	92	460	87
Females: reported STI symptoms-sore, discharge (of all who had sex in last year)												
Yes	3	4	23	18	13	25	36	16	11	25	86	17
No	64	96	103	82	39	75	165	84	43	75	414	83
Males: experienced forced sex in the past year against will by threat or violence												
Yes	2	3	2	1	1	3	6	1	1	0	12	1
No	70	97	150	99	35	97	327	99	102	100	684	99
Females: experienced forced sex in the past year against will by threat or violence												
Yes	1	1	6	3	1	1	5	1	2	1	15	2
No	92	99	179	97	96	99	310	99	83	99	760	98

Table 45b HIV prevalence in relation to demographic and risk factors among service staff

(n=denominator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
All	165	1,2	337	10,7	133	14,1	648	11,9	188	20,3	1 471	12,2
Sex												
Male	72	1,0	152	9,6	36	16,7	333	13,8	103	20,6	696	13,1
Female	93	1,5	185	11,7	97	12,8	315	10,0	85	19,8	775	11,3
Age group												
< 40	61	2,7	143	10,4	25	12,7	267	13,7	70	19,6	566	12,8
40+	104	0,5	194	10,9	108	14,3	381	10,9	118	20,6	905	11,9
Race												
African	30	11,0	277	14,4	115	16,3	562	14,2	152	30,1	1 136	17,2
Indian	4	0,0	0	0,0	0	0,0	5	0,0	30	0,0	39	0,0
Coloured	100	0,0	36	0,0	2	0,0	11	26,9	3	0,0	152	2,6
White	31	0,0	24	0,0	16	0,0	70	0,0	3	0,0	144	0,0
Marital status												
Married	92	0,0	136	6,5	53	7,9	317	10,4	96	16,7	694	9,6
Not married	73	2,8	201	13,8	80	18,5	331	13,3	92	25,4	777	14,7
Parenting status												
Have children	120	1,0	286	11,6	120	13,7	541	13,5	177	21,2	1 244	13,5
No children	45	1,8	51	6,2	13	17,4	107	5,0	11	4,6	227	5,2
Absenteeism in past month												
Missed no classes	92	0,0	145	9,0	89	13,4	330	11,9	106	10,9	762	10,0
Missed <3 days	45	0,0	111	10,5	17	15,1	176	11,6	43	10,3	392	9,8
Missed 3+ days	28	7,8	81	14,3	27	15,6	142	12,2	39	43,6	317	19,6
Medical Aid												
Yes	113	0,3	162	9,4	45	5,4	350	9,3	94	20,7	764	10,2
No	52	3,2	175	12,0	88	18,9	298	15,6	94	19,4	707	14,8
Male circumcision												
Not circumcised	40	0,0	27	1,8	19	21,5	133	14,9	79	23,0	298	14,8
Yes <=10 yrs	14	0,0	10	5,3	0	0,0	48	6,7	4	0,0	76	4,6
Yes > 10 yrs	18	4,5	115	12,5	17	11,7	152	15,1	20	13,1	322	13,2
Males: reported STI symptoms-sore, discharge (of all who had sex in last year)												
Yes	3	26,9	17	26,4	2	41,8	45	22,9	11	29,9	78	25,3
No	44	0,0	108	8,7	20	12,8	208	12,8	80	20,7	460	12,5
Females: reported STI symptoms-sore, discharge (of all who had sex in last year)												
Yes	3	20	23	6	13	20	36	14	11	56	86	23
No	64	1,2	103	11,4	39	14,0	165	5,9	43	19,4	414	9,1
Males: experienced forced sex in the past year against will by threat or violence												
Yes	2	0,0	2	0,0	1	0,0	6	0,0	1	0,0	12	0,0
No	70	1,0	150	9,7	35	17,3	327	14,0	102	20,7	684	13,2
Females: experienced forced sex in the past year against will by threat or violence												
Yes	1	0,0	6	0,0	1	0,0	5	0,0	2	30,7	15	2,9
No	92	1,5	179	12,0	96	12,9	310	10,1	83	19,7	760	11,5

Table 46a Sexual practices among service staff

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Sexual experience												
Ever had sex	137	83	301	90	110	83	555	84	171	92	1 274	86
Sex in past year (of ever had sex)	114	83	252	84	74	69	454	80	145	82	1 039	81
No sex in past year (reported)	23	17	49	16	36	31	101	20	26	18	235	19
Partners in past year (of ever had sex)												
0	23	17	49	16	36	31	101	20	26	18	235	19
1	100	73	178	58	58	52	338	59	109	65	783	61
>1	14	10	74	26	16	17	116	21	36	17	256	20
Partners in past month (of sex in past year)												
0	12	10	36	13	16	20	73	14	13	8	150	13
1	98	87	180	70	52	70	316	71	108	76	754	73
>1	4	3	36	17	6	10	65	15	24	16	135	14

Table 46b Sexual practices among service staff

(n=numerator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Sexual experience												
Ever had sex	137	1,5	301	10,2	110	13,7	555	11,8	171	20,4	1 274	12,2
Sex in past year (of ever had sex)	114	1,8	252	10,6	74	15,5	454	11,3	145	24,2	1 039	12,9
No sex in past year (reported)	23	0,0	49	8,3	36	9,7	101	14,0	26	2,8	235	9,2
Partners in past year (of ever sex)												
0	23	0,0	49	8,3	36	9,7	101	14,0	26	2,8	235	9,2
1	100	1,7	178	11,4	58	6,4	338	11,0	109	23,4	783	12,1
>1	14	2,5	74	8,9	16	43,7	116	12,0	36	27,3	256	15,5
Partners in past month (of sex in past year)												
0	12	0,0	36	15,2	16	14,0	73	11,0	13	3,1	150	10,2
1	98	1,7	180	12,3	52	13,2	316	11,4	108	25,7	754	13,3
>1	4	10,1	36	0,0	6	35,0	65	11,1	24	27,7	135	13,4

The mean HIV prevalence for service staff was 12,2% [CI: 9,9%–14,9%], the highest of all four institutional categories and significantly higher than academic staff and students ($p < 0,05$). The province with the highest HIV prevalence at 20,3% [CI: 13,4%–29,4%] was KZN while WC was lowest at 1,2% [CI: 0,4–3,4%].

Female service staff, at an overall HIV prevalence of 11,3% [CI: 8,4%–15,1%] were less likely to be HIV positive compared to males (13,0% [CI: 9,9%–17,0%], ($p = 0,5$)). Female HIV prevalence was only higher than male HIV prevalence in the WC and EC.

Table 47a Other HIV-related behaviours and practices among service staff

(n=denominator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Condom use at last sex (of sex in past year)												
Male, 18-24	1	0	9	84	0	0	9	40	1	100	20	65
Male, 25+	46	30	117	49	22	44	244	44	90	41	519	43
Female, 18-24	1	100	8	43	1	100	11	47	11	49	21	50
Female, 25+	66	26	118	38	51	33	190	33	54	30	479	33
1 partner in past year	100	24	178	41	58	39	338	36	109	35	783	35
2+ partner in past year	14	52	74	56	16	35	116	50	36	46	256	50
< 2 partners in past month	110	27	216	44	68	37	389	36	121	37	904	37
2+ partners in past month	4	55	36	54	6	45	65	60	24	39	135	53
Not married	41	50	136	54	34	51	201	46	63	54	475	50
Married	73	16	116	37	40	28	253	35	82	29	564	31
Relation to sex (of sex in past year) n=numerator												
I am often tricked or pressurised into having sex when I don't want it (of had sex in past year)	2	2	18	7	5	9	33	6	16	14	74	7
I often expect money or gifts in exchange for sex (of had sex in past year)	0	0	7	3	9	14	18	4	4	1	38	3
HIV testing n=numerator												
In past year	46	26	104	30	28	21	177	27	62	35	417	28
More than a year ago	63	40	67	19	33	25	146	22	38	19	347	23
Never	56	35	166	52	72	54	325	50	88	46	707	48
Substance use n=numerator												
Drink alcohol never/occasionally	146	89	310	91	123	93	584	89	177	93	1340	90
Drink alcohol weekly or more	19	11	27	9	10	7	64	11	11	7	131	10
Drunk in past month	26	17	90	26	45	33	163	25	29	18	353	24
Used marijuana in past month	7	5	8	2	4	3	25	4	8	4	52	4
Not used marijuana in past month	158	95	329	98	129	97	623	96	180	96	1 419	96
Injected drug in past month	0	0	5	1	5	4	13	2	1	0	24	1
Not injected drug in past month	165	100	332	99	128	96	635	98	187	100	1 447	99

Table 47b HIV prevalence and other HIV-related behaviours and practices among service staff

(n=denominator)	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %	unwgt n	wgt %
Condom use at last sex (of sex in past year)												
Yes	33	3,8	121	12,4	29	19,2	185	13,5	59	33,6	427	16,7
No	81	1,0	131	9,1	45	13,2	269	9,8	86	18,6	612	10,6
Relation to sex (of sex in past year)												
I am often tricked or pressurised into having sex when I don't want it (of had sex in past year) yes	2	0,0	18	7,6	5	15,8	33	12,5	16	39,4	74	21,5
I often expect money or gifts in exchange for sex (of had sex in past year) yes	0	0,0	7	15,3	9	0,0	18	18,0	4	30,4	38	13,1
HIV testing												
In past year	46	0,0	104	11,4	28	18,2	177	10,7	62	35,2	417	15,7
More than a year ago	63	2,0	67	9,5	33	9,7	146	14,9	38	14,2	347	11,1
Never	56	1,2	166	10,8	72	14,5	325	11,2	88	11,4	707	10,7
Substance use												
Drink alcohol never/occasionally	146	1,4	310	11,1	123	12,5	584	12,3	177	20,3	1 340	12,4
Drink alcohol weekly or more	19	0,0	27	6,7	10	33,1	64	8,9	11	19,7	131	10,5
Drunk in past month	26	0,0	90	10,7	45	20,9	163	14,2	29	31,0	353	15,4
Used marijuana in past month	7	0,0	8	13,4	4	37,4	25	2,1	8	15,6	52	8,3
Not used marijuana in past month	158	1,3	329	10,7	129	13,3	623	12,3	180	20,5	1 419	12,3
Injected drug in past month	0	0,0	5	0,0	5	21,6	13	6,9	1	0,0	24	9,2
Not injected drug in past month	165	1,2	332	10,9	128	13,8	635	12,0	187	20,3	1 447	12,2

The prevalence of HIV was highest amongst African service staff – 17,2% [CI: 14,0%–21,0%], with no cases of HIV among White or Indian service staff, and low prevalence among Coloured staff (2,6%).

Service staff who were married were less likely to be HIV positive at 9,6% in comparison to the prevalence of 14,7% among those who were not married ($p=0,02$).

Among those who were absent for three or more days in the past month, 19,6% were found to be HIV positive, in comparison to those who were absent for less than three days – 9,8% ($p=0,002$).

The HIV prevalence (10,2%) of the service staff with medical aid was significantly lower than the HIV prevalence among those without medical aid (14,8%) ($p=0,07$).

HIV-related behaviours and practices

Table 46a illustrates the distribution of sexual practices among service staff.

These proportions inform interpretation of the HIV prevalence data described in Table 46b.

Among the 86% of service staff who reported having had sex before, HIV prevalence was 12,2%. Most

Table 48 Knowledge and attitudes related to HIV among service staff

	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	n	%	n	%	n	%	n	%	n	%	n	%
Knowledge												
The more sexual partners you have, the more likely it is that you will be infected with HIV (True)	149	91	273	80	105	77	513	80	147	79	1 187	81
You can be infected with HIV by touching a person who is HIV positive (False)	149	90	274	83	110	83	539	83	144	74	1 216	82
A mother can pass HIV on to her baby through breastfeeding (True)	99	60	214	62	86	66	399	60	103	48	901	59
If a person is raped, there are drugs available that can prevent HIV infection (True)	107	62	182	55	83	64	324	52	100	54	796	55
It is against the law for a girl younger than 16 to have sex with an older man, even if she agrees to it (True)	142	87	258	76	96	70	471	72	130	72	1 097	74
There are drugs available called antiretrovirals that can help people with HIV and AIDS live longer (True)	147	89	278	83	104	80	523	80	146	82	1 198	82
Attitudes and perceptions related to sexual partnerships (Males)												
I believe that it is acceptable to have a one-night stand (Agree, Agree strongly)	7	10	23	12	9	23	63	17	12	11	114	15
It is acceptable to me for a man to have more than one girlfriend at a time (Agree, Agree strongly)	6	9	19	10	4	11	48	12	12	11	89	11
It is acceptable to me for a woman to have more than one boyfriend at a time (Agree, Agree strongly)	7	9	10	7	3	8	42	12	6	9	68	10
I believe it is acceptable for students to have sex for money to support their studies (Agree, Agree strongly)	0	0	8	4	0	0	20	5	6	6	34	4
Many of my friends have more than one current sexual partner (of all)	10	14	38	25	11	32	107	29	23	20	189	25
Attitudes and perceptions related to sexual partnerships (Females)												
I believe that it is acceptable to have a one-night stand (Agree, Agree strongly)	9	11	28	15	11	11	37	12	9	14	94	13
It is acceptable to me for a man to have more than one girlfriend at a time (Agree, Agree strongly)	7	8	21	11	11	11	15	5	9	11	63	8
It is acceptable to me for a woman to have more than one boyfriend at a time (Agree, Agree strongly)	5	5	18	10	12	12	19	6	5	6	59	7
I believe it is acceptable for students to have sex for money to support their studies (Agree, Agree strongly)	1	1	5	3	1	1	10	3	1	4	18	3
Many of my friends have more than one current sexual partner (of all)	4	4	29	15	14	13	53	14	9	4	109	11

service staff who had previously had sex reported having had sex in the past year (81%), and HIV prevalence in this group was 12,9%.

Among service staff who had ever had sex, 19% had not had sex in the past year. Around two thirds (61%) had one sexual partner in the past year, while 20% had two or more partners. HIV prevalence was higher among those with more than one partner in the past year in comparison to those with one partner only – 15,5% vs 12,1% ($p=0,3$) but this was not statistically significant.

Among service staff who had sex in the past year, 14% had more than one partner in the past month. This group had a similar HIV prevalence than those with one partner in the past month – 13,4% vs 13,3% ($p=0,6$).

Apart from the small number of service staff aged under 25 who had sex in the past year, 43% of males and 33% of females aged 25 and older reported using condoms at last sex. There was however a significant difference in condom use between service staff who had one partner in comparison to those who had more than one partner in the past year – 35% vs 50% ($p<0,001$) and between those who had two or more partners in the past month in comparison to those who had one or no partner in the past month – 53% vs 37% ($p=0,003$).

Condom use at last sex among married service staff was lower than those who were not married (31% vs 50%) ($p<0,001$).

A fair proportion of service staff who had sex in the past year said that they were tricked or pressurised into having sex when they didn't want it (7%), and a lower proportion reported expecting money or gifts in exchange for sex (3%).

Most service staff reported drinking alcohol either occasionally or never (90%), with 10% drinking once a week or more. However, 24% of service staff, including those who drank occasionally, reported being drunk in the past month.

Service staff were asked whether or not they had used one or more named drugs in the past month. These

included marijuana, cocaine, amphetamines, LSD, and heroin, among others. There was very low overall prevalence of recreational drug use apart from marijuana, with some 4% of service staff reporting using marijuana in the past month. A very small proportion of service staff reported injecting a drug (for example heroin), in the past month.

Nearly half of service staff (48%) had never tested for HIV and of this group, 10,7% were HIV positive. Of those who had tested, 23%, had tested more than a year ago and 28% had tested in the past year. Among these two groups, HIV prevalence was 11,1% and 15,7% respectively.

There were no significant associations between alcohol or drug use and HIV.

Knowledge, attitudes and norms

Overall knowledge of HIV among service staff was high, but was inadequate on two key statements: knowledge of HIV transmission through breastfeeding, which only 59% answered correctly, and the availability of post-exposure prophylaxis in the case of rape which was answered correctly by 55% of service staff.

In relation to attitudes to sexual partnerships, there was somewhat low agreement with statements related to promiscuity. Males were more likely than females to be accepting of one-night stands, and either men or women having multiple partners. One in four male service staff (25%) believed that many of their friends had more than one current sexual partner, as did one in eight (11%) of females.

Exposures and vulnerabilities related to HIV and AIDS

Around one in four service staff (27%) indicated that a person they knew personally had said they were HIV positive in the past year. Around two fifths of service staff (38%) mentioned that they personally knew someone who had died of AIDS and 17% indicated that they knew of a student or staff member who had died of AIDS.

Table 49 Exposures and vulnerabilities related to HIV and AIDS among service staff

	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	n	%	n	%	n	%	n	%	n	%	n	%
Community-level exposure to HIV and AIDS (past year)												
Someone I know personally has said they are HIV positive	20	8	108	31	46	34	189	28	54	29	417	27
Someone I know personally has died of AIDS	26	11	164	47	66	48	301	42	78	33	635	38
I know of a student or staff member who has died of AIDS	10	6	83	25	23	17	123	18	33	13	272	17
I have provided care to an HIV-positive child or adult in my household	8	4	50	14	26	18	92	13	24	6	200	11
I have missed classes or work to attend a funeral of a person who has died of AIDS	10	5	63	18	30	22	133	18	37	13	273	16
Perceptions related to living with HIV and AIDS												
It is a waste of money to provide further education to someone who is HIV positive (Disagree/ Disagree strongly)	138	82	262	78	101	76	486	75	139	75	1 126	77
If I told my friends at this institution that I had HIV, most of them would support me (Agree/Agree strongly)	68	41	194	57	52	39	242	38	66	31	622	41
If a teacher has HIV but is not sick, she/he should be allowed to continue teaching (Agree/Agree strongly)	131	78	278	82	116	87	514	77	148	79	1 187	79
Exposure to violence and harassment												
I feel safe from physical harm at this institution (Agree/Agree strongly)	78	49	198	56	78	58	434	69	96	55	884	61
Violent crime where people are physically injured is a serious problem at this institution (Agree/Agree strongly)	32	17	93	27	36	26	168	26	57	25	386	25
Female students are safe from sexual harassment at this institution (Agree/Agree strongly)	47	27	154	42	61	43	333	51	61	34	656	43

With regard to providing care to an HIV-positive child or adult in their household in the past year, 11% said they had done so, while 16% said they had missed work to attend a funeral of a person who had died of AIDS.

Supportive attitudes to people living with HIV were fairly high, with around eight out of ten service staff being accepting of HIV-positive people. However, there was a strong sense among service staff, that if they themselves were found to be HIV positive, they would not be supported. Only 41% agreed that their friends at the institution would support them.

Around two thirds of service staff (61%) said that they were safe from physical harm at the institution. However, perceptions that physical injury through violent crime was a problem were held by 25% of service staff, while only 43% agreed that female students were safe from sexual harassment at the institution.

Perceptions of leadership and responses related to HIV and AIDS

There was not strong agreement with the statement related to management taking HIV and AIDS seriously, with only 54% agreeing.

Table 50 Perceptions of leadership and responses related to HIV and AIDS among service staff

	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	n	%	n	%	n	%	n	%	n	%	n	%
Perceptions of management and student leadership (Agree, Agree strongly)												
The management of this institution take HIV and AIDS seriously	100	58	214	66	79	61	331	52	78	42	802	54
Knowledge of support infrastructure (Yes)												
If you discovered you were HIV positive, is there a place at this institution where you can go for help and support	108	65	249	73	79	59	344	55	116	59	896	60
Involvement in HIV and AIDS activities in the past year (Yes)												
I have attended a meeting or function about HIV and AIDS at this institution	53	31	158	46	52	39	216	33	58	25	537	34
I have received information in the form of leaflets or booklets about HIV and AIDS at this institution	79	46	185	54	66	50	335	50	80	42	745	49
I have obtained free condoms at this institution	56	32	205	60	61	48	349	47	93	46	764	47
I have worn a t-shirt, cap, red ribbon or other item of clothing with an AIDS message at this institution.	46	28	112	34	36	30	169	25	36	16	399	26
I am a member of an HIV and AIDS club or organisation at this institution	4	2	68	18	7	6	47	7	18	6	144	8
I have been involved in conducting HIV and AIDS research while I have been a student or have been working at this institution	19	11	52	16	18	13	82	11	19	8	190	12

Table 51 Exposure, two days a week or more, by medium

	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	n	%	n	%	n	%	n	%	n	%	n	%
Communication mediums												
Listen to radio	130	77	267	81	109	83	517	79	154	75	1 177	79
Watch television	148	89	289	86	116	87	542	82	153	82	1 248	84
Read a magazine	77	45	129	38	38	29	266	40	68	35	578	38
Read a newspaper	94	56	166	50	58	46	368	54	92	47	778	52
Use the internet	100	58	108	34	25	18	176	30	59	40	468	35
Use email	121	72	111	35	29	22	187	33	62	42	510	38
Contacted an HIV and AIDS helpline in past year												
Yes	14	6	40	10	9	7	80	12	17	5	160	9

Table 52 Response to “Have any of the following made you take HIV and AIDS more seriously in the past year?” among service staff

	Western Cape		Eastern Cape		Free State		Gauteng, North West and Limpopo		KwaZulu Natal		All	
	n	%	n	%	n	%	n	%	n	%	n	%
Campus radio programmes	24	13	112	31	29	20	143	22	33	14	341	21
Campus newspaper articles	51	32	135	36	38	28	211	30	51	27	486	30
Leaflets, booklets or posters at this institution	59	36	174	49	40	28	262	37	68	31	603	37
HIV and AIDS activities at this institution	49	28	153	41	39	28	219	32	70	39	530	34
Knowing or talking to someone with HIV	44	23	165	45	57	40	277	39	64	34	607	37
Knowing someone who has died of AIDS	47	24	177	50	70	51	297	41	74	35	665	41
AIDS statistics	47	26	135	38	36	25	216	31	55	26	489	30
Talking to a health worker	47	26	150	43	48	35	247	34	66	20	558	32
Having an HIV test	52	28	147	42	45	36	240	34	70	34	554	35
Talking to friends	63	36	196	55	68	51	333	48	90	39	750	47
Talking to family members	57	32	182	52	67	50	329	47	86	37	721	45
Information on the internet	41	22	69	20	17	12	114	17	42	18	283	18

Around two thirds of service staff (60%) knew of a place at the institution they could go for help if they discovered they were HIV positive. The predominant forms of engagement with HIV and AIDS at the institutions in the past year were receiving information in the form of leaflets or booklets, and obtaining free condoms. Around one in twelve service staff (8%) were involved in an HIV and AIDS club or organisation at the institution, and 12% said they had been involved in HIV and AIDS research.

Exposure to communication

The majority of service staff listened to the radio (79%) or watched television (84%) two days a week or more. Around two fifths (38%) read a magazine and around half read a newspaper (52%) two days a week

or more. There was some access to internet and email with this being indicated by 35% and 38% of service staff respectively. With regard to contacting an HIV and AIDS helpline, 9% indicated that they had done so in the past year.

When service staff were asked about communication that had made them take HIV and AIDS more seriously in the past year, there was somewhat low mention of campus radio programmes (21%) or campus newspaper articles (30%). Leaflets, booklets or posters (37%) and HIV and AIDS activities at the institutions (34%) did however garner higher register, although knowing someone who has died of AIDS obtained a higher level at 37%. Among other communication, AIDS statistics and talking to friends and family, were most influential.

SECTION FOUR

Qualitative Research Findings

Unless otherwise stated, all findings reported below are derived from the qualitative data. The findings are presented in three parts: 1) factors associated with vulnerability to HIV infection; 2) institutional HIV and AIDS responses; 3) promising interventions as derived from the qualitative study.

HIV VULNERABILITY AND SUSCEPTIBILITY

The terms ‘vulnerability’ and ‘susceptibility’ refer respectively to individual and environmental or contextual factors predisposing people to risk. A person is vulnerable to HIV infection through not using a condom in a casual sex act, and susceptible through living in an environment where social norms of sexual relating pose an inherent risk of infection, or where there are relatively high levels of HIV prevalence. Areas of both vulnerability and susceptibility are discussed below.

Sexual debut

The majority of students in higher education have had sex before matriculation (73%) and by each additional year of age an increasing proportion have had sex. A large number of students are likely to have sex for the first time during the period they are at university.

Existing cultures of sexuality and sexual and reproductive health on campus are important in shaping

students’ approaches to sex and in the management of their sexual and reproductive (SRH) health. For those students residing away from home for the first time, the first months at university require them to manage freedoms they have not previously had. The university environment provides greater opportunities to be sexually active and in particular, to drink alcohol. It was widely reported that during this period first-year students lack the experience to make good and risk-aware decisions, especially regarding sexual liaisons and alcohol use.

A female student described her experience:

You don’t know how to handle the freedom. Honestly speaking, I came here in 2006 to stay here at res. I was shocked by the level of freedom that I had because I expected that there’d be someone who’s going to say “No, you guys have to study at this time, you have to be back at this time”, but there was nothing of the sort.

Both male and female students reported that they initially tended not to adequately manage the risks associated with their new-found freedom. The most notable risk during this period is casual sexual intercourse without using condoms in the context of alcohol intake. In this regard, campus health staff provided much anecdotal evidence of first-year students in particular requiring emergency contraception on Monday mornings. The need for emergency

contraception indicates non-use of condoms and hence HIV-infection risk. Emergency contraception is sometimes seen as a primary method for pregnancy prevention, as a staff member explained: “They can be having sex the whole weekend, then the boyfriend thinks that as long as she has the morning-after pill, everything will be okay.” Further evidence of this is repeated requests for emergency contraception reported on most campuses where it is freely provided, leading some health staff to question whether this had not become a risk in its own right by reducing motivation to use condoms.

Campus authorities are aware of the risks to students in this transitional phase and orientation weeks are held on most campuses where some form of advice and guidance about risks and how to manage these is included in the programme. However, students report that during this brief period they are too unsettled really to appreciate what is said at orientation briefings and meetings. This points to the need to guide and support students more consistently over their first few months at university.

A female student said:

You come here and you are free and there is this world that you did not expect. Things are quite different from home and you want to experience everything. And in the process of experiencing everything, sex comes along, which your mother never told you about.

A male student said:

Some people believe in no sex before marriage, but once you hit varsity, especially in res, that whole ‘no sex before marriage thing’ becomes very difficult to maintain because you’re constantly under pressure; especially for first-year students. To put it bluntly, they’re ‘fresh meat’ for the seniors and they constantly get bombarded.

The naiveté and inexperience of first-year female students contribute to a situation that allows predation by older students and also non-campus men. This

is referred to by a range of terms with a predatory orientation across institutions, including ‘hunting’, ‘scouting’, ‘fresh blood’ and ‘the gold rush’. There can be no doubt about the existence of this phenomenon as it was reported on most campuses. The particular vulnerability of first-year students was described by a student: “They don’t know what’s going on” and are easily taken advantage of as they get acclimatised to university life, as “they want to explore everything.”

The qualitative data shows that commencement of sexual relations in a developing relationship does not require strong forms of commitment by the couple to being in a long-term relationship. Commitment to fidelity appears to grow over time, and is not implied by the relatively ‘casual’ initial sexual contexts that happen within days or weeks of initiating relationships. In this context it seems unlikely that promoting abstinence is going to have a strong effect. It is a prevailing practice that people will eventually have sex in relationships. A male student suggested that “What will work is being realistic; knowing that the youth will not do the whole abstinence or secondary abstaining thing.”

There is pressure to have sex in relationships and not having sex poses a risk to the continuity of relationships. A female focus group participant described the pressure to have sex thus:

If you were to do a survey here you would find that most girls first lost their virginity, not because they were ready to have sex, or they wanted to have sex, or anything for that matter. If they had sex it’s because they’re pressured into it by their friends. Everybody else was doing it; or this boy said, “if you love me, then you’re going to sleep with me and if you don’t sleep with me, then you’re gonna lose me”.

There is particular pressure experienced by new female students not yet acclimatised to or feeling part of the institution. Another student described the social pressure to have a sexual partner as follows:

They believe that one can’t survive in the institution without having a boyfriend. They think that if you

stay here without a boyfriend you will be seen as an outcast. There's even a belief that once you pass first year without getting a boyfriend, it will be difficult for you to get a man in second year. So now they take whatever comes, without even considering if this person is the best for me and my future.

Against this background must be recognised that around a third of students in this study reported never having had sexual relations. This is notable in contexts where most others are openly sexually active. The primary motivation for sexual abstinence in the campus communities was noted to be related to religious beliefs. The religious perspective is exemplified in the words of one respondent: "God protects me from HIV because he insists that I only have sex with my lifetime partner and he insists that my lifetime partner only has sex with me." Apart from such beliefs, campus culture is generally accepting of students having sex, with the exception of some health and residence staff who show their disapproval of student sexual activity.

Patterns of sexual relationship

Different patterns of sexual relationship are associated with varying degrees of HIV-infection risk. More than 10 years ago it was convincingly shown that in two populations in which individuals had the same average number of partners in a given period, HIV spread more rapidly in the population in which the partnerships were concurrent than it did in the population in which sexual partnerships occurred sequentially.¹²⁰ Thus, the rate of change of sexual partners – especially concurrent partners – is a crucial determinant in the spread of sexually transmitted infections, including HIV. Single-event or casual sexual encounters ('one-night stands'), even if they are overlapping (e.g. in the same month), are likely to be less significant as vectors of HIV infection than are concurrent partnerships.

Infectiousness is dramatically higher during the early stage of HIV infection lasting up to three months, and HIV transmission probability is greater when there are high levels of partner change among newly

infected people.¹²¹ This makes infection less likely to happen under conditions of serial monogamy, to the extent that viral load has reduced at the point of partner switching, because single events of sex have relatively low probabilities of HIV infection beyond the initial period of hyper-infectiousness. Where overlapping sexual partnerships occur during the period of hyperinfectivity there is a much greater chance of HIV infection.¹²²

The KABP data suggests differences across campuses with respect to tolerance of concurrent partnerships. The general finding is that it is more acceptable among males for males to have more than one partner at a time. One student said, "Us guys believe that to be a guy you have to have one or two girlfriends." A student on another campus felt that "There is this thing [on campus] that if you have more than one partner, you are the man." A male staff member concurred:

They want to be respected by the other guys so they try and get as many women as they want and if you've got good skills in terms of the getting the beautiful women, the guys they respect you and they say "uyiSkhokho", meaning "you are a player" and somehow they idolise that person and the style.

Although it was found that it is generally more acceptable to have a 'one-night stand' than to have more than one partner, one in three male students and one in eight female students who have had sex in the past year, had more than one partner in the last month. This must be considered a significant risk for the spread of HIV among students.

There were many motivations given for having sex with partners concurrent to an existing sexual relationship including: pleasure; novelty, curiosity, amusement and exploration; revenge against unfaithfulness; to console heartbreak or ease separation from one's steady partner; to gain sexual experience; and to alleviate boredom. Additional explanations were given, such as: because one was offered the opportunity and couldn't resist; because of the material and opportunity benefits of a relationship; because one has a 'sex buddy'; because a current relationship tolerates

concurrent partnerships; because of temporary separation from a partner or travel, especially for students studying away from their primary place of residence.

Focus group participants described how those who were in what they perceived to be a stable relationship might find out later on that their partner wasn't faithful, or may even be aware and accepting of the other lovers. A student explained that "you might hear from somebody else that she's sleeping with two or three of them and he is also sleeping with somebody else. And the chain just spreads like wild fire." A male student described what he saw as a common scenario:

If a male student has a steady girlfriend who prefers not to go out on a particular weekend, the boyfriend will go to a 'bash', pick up someone and end up back at her room. Then on Sunday, he might return to the steady girlfriend, or, 'wifey'. It's not like he's specifically focused on one-night stands; he has a steady girlfriend and just sees a need to go 'outside' at times.

Partners from 'home' tend to be seen as ongoing and these relationships tend to continue over periods of time, although opportunities to be together are intermittent. In the interim, the student will likely have other relationships at university. A female student described this situation as follows:

People come from different provinces and have girlfriends back home. Then when they come here, they make arrangements with other females and say that "we're just helping each other out". Then there will be no strings attached between them.

Although most students find it unacceptable to have more than one concurrent partnership, the qualitative data suggests that faithfulness is condoned by African culture. In the words of one male respondent, "Among guys, I'd say most of them have that old mentality, like, having one girlfriend is just foolish. It was the mentality of our fathers, who used to say, 'You are not a man if you have one woman'." Another student said:

Sometimes we as young adults will maintain that it's not a problem to have plus, minus three girlfriends.

I'll say "It's my culture. Our fathers are having three women, but are married to only one". So sometimes those kinds of things make us to say, "Eish, my culture allows it".

Whereas concurrent partners are not openly acknowledged or accepted within relationships there is, in many cases, a tacit social acceptance of both men and women having more than one partner and friends may often protect individuals from what they know about their partners' concurrent relationships – for example, "I have to make sure that I keep quiet and I don't say I saw your boyfriend with another girlfriend." A female student described the HIV risk within relationships this way:

That's the sad part, because you never get HIV from someone you don't trust, because that is when you are vigilant. You only get it from somebody that you do trust because I would never take a one-night stand and sleep unprotected. I don't understand why people don't get that; you only get it from somebody you trust.

Transactional sex

The consensus among those studying transactional sex is that it tends to be associated with poverty, the influence of Western consumerism, differences in economic power between men and women, and the breakdown of traditional African marriage customs involving bride wealth.¹²³

Transactional sex takes many forms, ranging from commercial sex work (prostitution) to relationships where the opportunity to have sex is provided in exchange for favours, gifts and recreational or travel opportunities, but not necessarily as a form of direct payment. Nearly all students and staff disagreed that it was acceptable for students to have sex for money to support their studies. Very few students and staff said that they often expect money or gifts in exchange for sex.

Notwithstanding this, there are some students who practice commercial sex work to support their studies,

and in some cases, to support drug habits. Students and staff on four of the campuses visited knew of instances of sex work taking place on the campus. However, the qualitative data provides evidence that less direct forms of material transaction are pervasive, and carry much greater social acceptance. The degree to which transactional sex was acknowledged and spoken about indicates that the general concept of exchanging sex for social and material gains is commonplace. A female student found it unremarkable and unproblematic that “everyone wants to be seen with the best car, best man”. However, in the context of an HIV epidemic, the opportunity comes with considerable risk which is made more stark by the unequal power of partners to determine how HIV risk is managed in the relationship.

Although not equally prevalent, the range of forms of exchange includes: students who support their studies by having sex for money; students having sex with lecturers for pass marks; relationships based on the obligation to have sex in exchange for gifts, favours and opportunities; and sex with people who possess social status to achieve esteem and social acceptance.

In one sense, such transactions are unremarkable and an extension of the giving of gifts as an expression of affection in relationships. The qualitative data suggests that even if not expected, material support is a strong part of many sexual relationships and in some respects the commitment of resources to a relationship secures the relationship and creates obligations within it. In most cases the material provision is from men seeking sex, whereas the motivation for women is not usually sex but rather acquisition of opportunity or material gain (though there were some exceptions). One student explained how:

It's about resources. The love is there, but right now they need somebody to “pay my bills and you know, buy me clothes”. It is not like they don't believe in love or they trash love, it is just for now this is survival you know, like love is at home but I'm trying to make a living and get an education in the meantime.

Whatever may be the causes of transactional sexual relationships, the consequences are plain. The opportunities and material gains come at the risk of HIV infection with the ‘provided for’ or ‘taken care of’ partner having little power to negotiate safe sexual behaviours in either casual or committed relationships. A female student described this challenge: “When someone spends on you, you feel that you owe that person something – you don't know how you can pay them and guys take advantage of that. You feel compelled to sleep with this person because he is doing everything for you.” There is also some loss of the HIV prevention value that may come from judicious partner selection and opportunity to limit the sexual behaviour of partners outside of the relationship.

It is not only material needs that lead to transactional sexual relationships. Social needs also play a role. In the words of a male student:

Especially with girls: they must be beautiful and they must be attractive and they must wear those clothes, there's a style involved. You find that people end up making an unwise decision because of the peer pressure around you. They just want to be like everybody.

A female student described how additional partners are sought:

Even though you know and I know I have a boyfriend, I would do my things on the side because my boyfriend can't afford all the things that I want. They will be able to cover these other things that my boyfriend and my parents can't cover.

The motivations of young women in this situation should not be trivialised and are not all about ‘shoes and hairdos’. This phenomenon is often about poverty, hunger and desperation. Poorer students are more vulnerable to being enticed into relationships for material gain, especially since entertainment and alcohol cost money and social desirability is mediated by what money can provide access to. As the following quote by a female student so poignantly illustrates:

This institution is for under-privileged students, that's a fact. You hide from it, you shy away, it embarrasses you, you're defensive of it, but it is for under-privileged students. So now you come here and get exposed to this life. A life of wanting this and that. And the fact of the matter is there are 'sales'. Whether you are being sold or somebody else is selling themselves... They [parents] never ask, "What are you eating?", until March. Nobody looks into that. Our parents don't even know. We get this [admission to university] ourselves, we get inside, get ourselves registered, find accommodation somehow, get into a class, and nobody's asking you, "How did you get in?" And yes, I've slept my way through that. I have. I've slept my way through that and at the end of the day, when push comes to shove and I'm HIV positive or even have AIDS, it's no more about me wanting to make a life for myself, it's about me being a bitch or it's about me sleeping around. So yes, HIV and AIDS is going to prevail around this institution because of the difficulties students have. We need to be addressing all those things first before commenting on sexual activities because the fact of the matter is that most of us have nobody asking us, "Have you eaten?" Most of us. We don't have anybody looking after us. So we're looking after ourselves and the only option we have at this point, to take care of ourselves, is our vagina.

There are many similar expressions in the qualitative data where female students in particular allow sexual relationships to happen in exchange for a variety of commodities including free transport to campus, access to computers, food, housing and sometimes valuable social contacts. There can be little doubt that economic necessity drives poorer female students to sexual relationships that might otherwise not have happened.

Primarily economic motivations for casual sex contrast with the motives of students who do not have similarly dire economic needs but nonetheless engage in transactional sexual relationships. These students aspire to and actively pursue sexual relationships with well-resourced partners. In the words of a female student:

We want that at times. We want a man who is going to buy things. You want a guy who will give you a

new pair of shoes or a hairdo or drive you around. We go up to them. We avail ourselves to them.

Talking about her own circle of friends, another female student explained that it requires more than one relationship to meet her different needs:

Like I will have five boyfriends, but they all serve different purposes. This one gives me money, this one takes me out, another buys me clothes, another for when I'm stressed, and one when I need sex. So you can have different boyfriends for different reasons.

It is not only vulnerability, but also social aspiration, recreation and other non-forced choices that lead students to sex for gain. Such relationships tend to lead female students to relationships outside of their peer-group and outside of the student community.

Age differentials in sexual relationships

'Age-mixing' – also referred to as 'age-disparate' or 'intergenerational sex' – refers to sex acts where one partner is young (usually under the age of 25 years) and the other partner is considerably older (usually five years older for teenagers and 10 years older for those 20 to 25 years old).

Having a partner who is significantly older than oneself has been identified as an important factor contributing to the spread of HIV in young people.¹²⁴ Other research has noted that such relationships are usually motivated by subsistence needs as well as being linked to materialism and consumption.¹²⁵ A 2005 national HIV seroprevalence survey in South Africa found a higher HIV prevalence among teenage males and females who reported having sexual partners who were five or more years older than themselves.¹²⁶ Owing to unequal power dynamics in such relationships, vulnerability may be exacerbated for young females who do not have the skills and power to negotiate condom use, among other disempowering features of such relationships.¹²⁷

In the qualitative data, numerous instances were cited of sexual relationships occurring between students and

older university staff. But these were noted to be exceptional rather than commonplace. Intergenerational relationships with non-campus partners, on the other hand, were frequent. Students described how commonplace relationships between female students and business men 15 years older or more had become. The focus group data suggests that the tendency is more for female students to be involved with older partners, although there was some discussion on particular campuses about young men having older partners.

It was widely believed by students and residence staff that university campuses were targeted by outsiders seeking young female students who may be easily impressed by their wealth. Evidence for this was cars parked outside most institutions on weekends. A male student explained how students are targeted by men from outside the campus community:

These bashes and so forth are really making the first-years more vulnerable to the adults who come into the university and are actually hunting. When the first-years come, the community, they are expecting. It's like they were hungry, and their hunger is going to be relieved by the people. Outside they say, "The first-years are here. We need to go hunt and check who's who".

While their advances might be welcomed by some students who were eager to benefit from the social and financial opportunities they afford, others experience such predation as disturbing or as harassment. A female student explained, "I see this person, he is the same age as my dad but he is running after me. And when he looks at me, he looks at me as a girlfriend."

Participants consistently described such men as "sponsors" who are looked to principally for the opportunities and material gains they provide access to. A female student described how, "If an older man approaches me and thinks that I'm older, I will pretend to be older because this man fancies me. I'll want to please him with anything he wants in exchange for what I need, for money, and so on." It was stated that status and power differentials, and the essentially transactional dynamics of such relationships, provide

young women with little opportunity to negotiate condom use. It was said that in many instances men prefer not to use condoms with younger females, and it was speculated that they may perceive them as constituting a relatively low risk of HIV infection.

Participants suggested that the motivation to be with older partners can involve more than just financial gain, with some students desiring excitement, social status or affirmation from their partner. A female student described her motivation for dating older men whom she perceived as more mature than her peers:

I feel that I am at a point in my life where I need something serious, more stable, and I just don't see how somebody who has not started working, who has not found himself yet, can provide that. So that's the reason I am doing it, that's why most of the people I date are always older than me.

The young females who engage in these relationships were not seen as victims because clearly they are not forced to join 'the line' (as it is called in one institution). This literally means to line up at known pick-up points by men who drive cars. Such relationships may commence with group dates where a female student will 'organise' a group of friends who will be picked up by men arranged by one of the students with 'a contact', and which often begin with a night out 'in town'. One female student noted harrowing experiences she had had in such contexts, especially since the expectations on the part of the men are strongly oriented to sex.

It was reported that such relationships may, and quite often do, transform from opportunistic and even casual relationships into long-term relationships, but where both the younger partner and the older partner do not consider each other as their primary partner. It is striking that for young females involved in such relationships, the opportunities of the relationship and the advantages of being 'looked after' appear to discount the immediate need for a love relationship. This is not to say that there are no affectional bonds in intergenerational sexual relationships, but rather that young females are able to defer the idea of being

connected to a life partner as something “that can happen later”. Unfortunately the risk within such relationships cannot be deferred, including risks of HIV infection, given the diminished power which often intersects.

Condom use

Research on South African and sub-Saharan African students at the University of Fort Hare explored how the intention to use condoms predicted subsequent condom use; study results suggested that the factors that determined such intention included: hedonistic behavioural beliefs (e.g. eroticising condoms), normative beliefs regarding perceived approval of condom use by sexual partners and peers, technical skill, and impulse control.¹²⁸ The same researchers found that students who reported favourable attitudes toward condom use, normative support and greater self-efficacy reported using condoms more often than other students, with self-efficacy appearing to be an especially important determinant.¹²⁹

Students in focus groups reported that condoms are most often used in casual, once-off, and new sexual relationships – unless these are accompanied by substance abuse, particularly alcohol, in which case condom use drops sharply. Other factors that influence the likelihood of condom use are perception of risk, conscious intention, and convenience. In longer-term liaisons and relationships condom use decreases, seemingly in inverse proportion to a growing sense of familiarity and trust between partners. Students in relationships tend to stop using condoms after a few weeks of protected sex, and by three months it is rare to find established partners regularly using condoms. This poses a strong risk for HIV infection in relationships where one partner was HIV positive prior to entering the relationship or where there are concurrent relationships. A female student reported:

Guys, they like to say, “you say you’re my ‘straight’, but now you want me to use a condom now. I use condoms with the other girls and then you want me to use a condom with you too! Hayi, no, no, I’m not going to use a condom”. So the more you are

committed to your partner, the more your partner wants you not to use the condom with him.

The resistance to condom use in established relationships should not be underestimated and is so pervasive that alternative prevention approaches should be applied to those in relationships.

Qualitative data also indicated that people were less likely to use condoms if they had one partner or with their ‘main’ partner, if they had more than one partner.

It was mainly female students who spoke about difficulties negotiating condom use, and in situations of transactional sex this is particularly difficult to do. There are young people who may feel more special or trusted by a partner when a condom is not used, as the value of the relationship is greater and it constructs a sense of trust in a relationship, whether warranted or not. Also, the motivation to use condoms is not sufficiently strong and the desire to keep a partner who does not like using condoms may and does sometimes supersede the motivation to use condoms. A female student explained:

If I meet a guy whom I love and have strong feelings toward and he says, “Let’s not use a condom” I will do it without protection because I want to keep the guy. It’s not necessarily because I want to, it’s because I don’t want to lose him.

Some females who carry condoms or initiate condom use are targeted as being promiscuous, or HIV positive. However, many young women report strong resistance and resilience in the face of such stereotyping and stigmatisation.

Students reported actual experiences of, as well as perceptions of, diminished sexual pleasure with condom use. But more worryingly, they speak of a lack of trust in the safety of the free condoms – branded as ‘Choice’ – which are distributed by the Department of Health. These are much criticised by students for being uncomfortable and prone to breaking. Many students said that they preferred to buy other brands of condoms – not only because of safety and comfort,

but also because of their aesthetic appeal and the greater status accorded to their users. A recent study¹³⁰ conducted at seven university campuses in KwaZulu-Natal strongly confirms these findings, noting the perceived fallibility of Choice condoms, their off-putting smell and their unappealing branding.

Students reported that females who carry condoms may be considered promiscuous: “If a guy meets a girl and she is carrying condoms, we say ‘this girl sleeps around,’” said a male student. In an environment where females may be wary of taking male condoms, the stigma of carrying female condoms is even greater. A female pondered, “Imagine that person is seen carrying a female condom. What will people say?” It was also noted that female condoms are usually only available at the clinic, seldom promoted, and there is little interest in using them. In most cases, acquiring female condoms necessitates going to the campus clinic and being ‘instructed’ in the correct application. This was often cited as a disincentive to make use of female condoms. Availability of emergency contraception and other contraceptive methods appeared to act against condom use. There is much stronger aversion to pregnancy than HIV.

Condom use is much lower among staff. Staff in focus groups described misconceptions among their peers about the HIV prophylactic efficacy of condoms, particularly among service staff.

Alcohol use

Systematic reviews and meta-analyses of empirical findings on alcohol use and sexual risks for HIV in sub-Saharan Africa show alcohol to be a major determinant of HIV infection and higher-risk behaviour.¹³¹ A prospective cohort study among African women found “recency” (how recently alcohol had been used), frequency and quantity of alcohol consumed related to higher-risk sexual behaviour.¹³²

Alcohol use has been decisively shown to be related to unprotected sexual behaviour and there is a strong relationship between alcohol use, alcohol-providing establishments, and expectations of sexual contact.

Among people who drink, greater quantities of alcohol consumption predict greater sexual risks than does frequency of drinking. Binge drinking¹³³ carries especially heightened risk. Drinking is also associated with increased levels of sexual coercion, as described by a male student: “I’m going to make her drink a lot. I won’t [drink], because I want to stay focused and no one else must get her... Then they get drunk fast. The guys will go to the toilet and discuss, ‘okay, I want this one’, and then you get back together again, go to sleep and then you’ll have what you’re having.”

The quantitative component of this study reports very high levels of self-reported drunkenness ‘in the past month’ although the multivariate logistic regression analysis did not reveal alcohol use to be an independent predictor of HIV status among sexually experienced students. “People look for any reason to celebrate with drink,” said a male staff member. There is no doubt that sexual proclivity is enhanced through alcohol intake and there was discussion on all campuses that suggested that casual sexual encounters and alcohol use are intertwined phenomena on campuses. This was reported at every institution. Based on their own experiences and observations of others, students and some staff members reported that many casual sex encounters would not happen without use of alcohol. Alcohol reduces sexual inhibition and the phenomenon of ‘beer goggles’ was used to refer to the way in which alcohol intake induced sexual interest and disinhibition, where one “sleeps with someone below your standards”. Students strongly expressed that drinking increased expectancy and likelihood of sexual contact.

Binge drinking was reported to be the major source of recreation on many campuses over weekends, together with sex. This is especially the case on campuses with poor recreational facilities and when campuses are located in isolated and rural areas, where there are few reasons or opportunities for students to leave campus.

Some campus authorities have tried to contain the risks of drinking by organising ‘bashes’ on campus. But this does not appear to contain levels of drinking and these events are in fact renowned for excessive

drinking and casual sex. Campus health service staff provide ample evidence of this in large increases in requests for the ‘morning-after’ contraception following such bashes, meaning that unplanned sex has taken place without use of condoms.

Existing alcohol policies are not enforced on many campuses and even on campuses where alcohol is not allowed apart from at officially sanctioned functions this was said to be the case. On other campuses where there are approved liquor establishments these are considered notorious as places of alcohol abuse.

On at least one campus there has been a concerted effort to understand and address the problem of alcohol and associated risks. This was initiated through research and subsequent efforts to develop forms of campus recreation that did not rely on alcohol consumption.

But on most campuses there appears to be little done to deal with widespread and regular alcohol abuse. It has been shown above that this risk affects condom use and increases casual sexual contact and it needs to be included as an important issue in understanding and minimising HIV transmission dynamics.

Vulnerability of disabled students

People with visual, aural or physical disabilities were present in discussion groups at four institutions. A number of issues pertaining to HIV information, risk and prevention opportunities were noted. These include lack of access to important prevention information that is taken for granted by non-disabled people. For example, a student reported a conversation with a blind fellow student, who asked him how to apply a condom as he had not been exposed to any instruction on how this is done. This is not surprising as this information is typically visually imparted, starkly illustrating the need to consider the needs of disabled people for the kind of practical knowledge provided in HIV prevention media that others take for granted. A partially deaf student participating in a discussion with the assistance of a friend said, “Deaf people, they can see, but they cannot understand what they

see because nobody makes it understandable to them.” It was also reported that there was less information available for physically disabled people, who have special informational needs with respect to sexuality and condoms. They felt that it is often assumed that disabled people were not sexually active and nobody bothered to put information “out there” that was dedicated to such groups.

Furthermore, speaking about her own experiences, a disabled student pointed out that students with disabilities mostly had access to bursaries and disability grants, and there was a feeling among them that they were ‘taken advantage of’ by other students who sought relationships with them because of their access to finances:

As a disabled lady, when I am approached by this able-bodied man, I will think that I am lucky, not checking that the guy has come with his own intentions of having accommodation, cafeteria or the monthly grant I am receiving.

Disabled students are vulnerable in this respect, often because they seek acceptance and want to have ‘normal’ relationships, “to prove that I am not that disabled”. There has been little done on campuses to address these issues, even on campuses that have programmes for accommodation and inclusion of disabled students.

Sexually transmitted infections

Treatment of sexually transmitted infections (STIs), which is a public health intervention in its own right, has had mixed results in restricting HIV epidemics, depending partly on the epidemic context in which the prevention effects were assessed. Data from Uganda and Tanzania suggests that the proportion of new HIV infections preventable by syndromic STI management decreases during the natural evolution of generalised HIV epidemics. Consequently, STI treatment is likely to have its greatest impact in the first 10 years of an epidemic and beyond this, behavioural risk reduction is likely to have a relatively greater impact. In countries with mature HIV and AIDS epidemics, HIV

prevalence cannot be lowered substantially without changing behaviour among those with the most sexual partners, although STI management should be seen as an adjunct to expanded prevention programmes predicated on reduced behavioural risk.¹³⁴

In focus groups and interviews, campus health staff spoke of treating students for the full range of sexually transmitted infections, including gonorrhoea, syphilis, herpes and genital warts. They were generally perturbed and frustrated by this as it reflected non-use of condoms and a general lack of concern for students' own sexual health. It was described that many students and staff didn't know much about STIs, how to treat them, nor how to communicate about sexual health problems with a partner. Rather than bring their sexual partners, clinic staff described how it was common for students to come for treatment alone, which makes re-infection likely. "There's no open discussion about STIs," said one clinic staff member.

Some campus health services conducted STI education campaigns, usually in residence settings, which focused on the prevention and treatment of STIs. On those campuses where this happens, students reported strong interest in learning about STIs which they said they previously had known little about and which was a neglected area in comparison to HIV and AIDS education. But systematic HIV education for staff and students is the exception rather than the norm, and high levels of self-reported symptoms of STIs in the quantitative component of this study attest to the need to deal with STIs systematically, both in relation to awareness and to treatment.

There was little evidence in focus group discussions about staff having been exposed to workplace education about sexual and reproductive health in the workplace, other than HIV and AIDS prevention and sometimes anti-stigma education. On some but not all campuses, the health services were used by staff, and usually only by service staff or other staff who were not members of private medical aid schemes.

Where sexual and reproductive services went beyond HIV and AIDS education it was usually due to the

extraordinary efforts of dedicated campus health service staff. Many of the staff interviewed showed themselves to be passionate and dedicated to their work. However, the services on many campuses were mostly under-resourced and inadequate to the demand for services. Identified needs and plans to improve services were carried from year to year, and this was experienced as frustrating.

In communities of young people, most of whom are sexually active and where there are high levels of casual sex, sexual and reproductive health should be regarded a priority – and given the sensitivity of such a service, confidential and 'friendly' services are required. As the presence of an STI increases susceptibility to HIV-infection,¹³⁵ an important area for institutions to address is education about, and the diagnosis and treatment of, STIs on campus.

Pregnancy and emergency contraception

Campus health staff reported some frustration at the apparent failure of students to take care of their own reproductive health needs. Reports of up to 20 students requiring emergency contraception and pregnancy tests on Monday mornings, frequent student pregnancies and abortion requests, are an indication to health service staff that although students are well aware of the possibilities of falling pregnant, they still take risks. These risks are often related to alcohol intake.

Students in focus groups reported that when friends told them that they had had unsafe sex, they were most concerned about getting 'a morning-after pill' (emergency contraception), as opposed to being concerned about HIV exposure. A female student gave an example:

We'll just have sex the whole weekend; I don't even go out of his room. On Monday I go buy the morning-after pill which is not 100% guaranteed that it's going to work, but I buy it in any case, but chances are I'm already pregnant.

This strategy was described as a 'fashionable' option for females who engage in unprotected sex. There

were students on campuses who appeared to use ‘morning-after’ pills as their preferred contraceptive method, using it repeatedly. A campus nurse said, “We have students that would come in even five to six times for the morning-after pill.” Clearly pregnancy is a more pressing concern; in the words of a health service staff member, “Instead of doing the HIV test, they do a pregnancy test.”

High levels of pregnancy at some institutions serve as a proxy indicator that condoms are not being used consistently and suggest a lack of perceived risk of HIV. Clinic staff reported that injections and oral forms of contraception were popular among female students, which diminished the likelihood of condom use. It was noted that methods on how to avoid pregnancy should be emphasised at institutions, particularly dual protection measures of using condoms with other forms of birth control.

Health service staff were generally aware that it was preferable to have situations where clinic staff were able to take time to discuss larger relationship issues like how to communicate about sexual health issues with one’s partner when students come for family planning, though some overburdened staff described being too busy to take time for additional counselling.

Addictive drug use

Marijuana was the most commonly used drug among both staff and students. No strong evidence emerged in focus groups that associated marijuana use with higher levels of HIV risk. However, more addictive drugs, which were used by only a small minority of students, were shown to have strong associations with HIV-infection risk behaviours.

Three focus group discussions with former and current hard drug users provided insight into drug use patterns among students. Drug use was also raised as a topic for discussion on other campuses, giving rise to a fuller understanding of drug use risks.

It is notable that the recreational and hard drugs that were used on campuses were readily available,

including tik and heroin, which are highly addictive. According to one drug-using student, “The suppliers are all over. You can just approach somebody and somebody will know somebody who knows somebody.” A male student described how, “Most of your money goes to drugs and we party a lot. I party a lot. I messed up in my studies because of work and partying and just spending most of my money on drugs.”

Drug use affects HIV-risk through the lessened likelihood of condom use when ‘high’ and especially in the case of women who provide sex in exchange for drugs (or the money to buy them). This was reported as quite common among addicted student drug users. One participant summed it up as “In the crowds we hang with, it’s like, ‘if I’m going to buy you drugs tonight, your pants should come off’.” Instances were described (including personal experiences) of female students resorting to commercial sex work to support their addictions, including instances of drug-using couples supported in this way. A female student described the impact of drug use on her relationship:

I would hustle guys, which my partner was aware of. We’re in this relationship and we’re, like, really in love with each other. “Are you cool with it?” “Ja, I’m cool with my girlfriend going to another guy and she’s going to be touched by another guy and we’re going to get the money to feed our addiction”. Like once you start using it, you have to use it every day. So ja, it has an impact on your relationship.

Although a marginal problem, given that only a small percent of students were involved, for those affected the risks are high. There has been very little done on campuses to educate students about drug use and its consequences, nor to provide support in dealing with addiction. On one campus, focus group participants involved in continuing drug use indicated that they would be interested in attending a support group if there was one available. A male student said, “I’m at the point where I really want to quit, you see. And I could use some encouragement.”

Men who have sex with men

A systematic review of studies of HIV prevalence in 'men who have sex with men' (MSM) in low- and middle-income countries¹³⁶ showed substantially higher rates of HIV among MSM than in the general population in both generalised and concentrated epidemics. Little is known about the contribution of high levels of HIV infection in MSM practices to HIV epidemics in sub-Saharan Africa. The role of sex between men has been overlooked in understanding HIV transmission dynamics and little has been documented on the risks of crossover between MSM and the general population.

Six percent of all male students and staff report having had sexual relations with men in the past year. The HIV prevalence (4,1%) was more than twice the HIV prevalence of heterosexual men (1,7%). The survey also showed that there are men who have sex with men (MSM) at HEIs in the study.

There has been remarkably little research on the structural, cultural, interpersonal and individual factors that determine sexual risk behaviour in South African MSM.¹³⁷ Focus group discussions indicated very high levels of risk-taking among men who have sex with men on one of the campuses involved in this component of the study. Unprotected anal and oral sex with partners whose HIV status was unknown was reported by a number of respondents when speaking about their own experiences. For example, one student explained how:

I don't usually use a condom if I can. I like it natural. I know it's risky. I've had sex many times without a condom. I thought I'd regret it. But when I'm in love with a guy, it's hot and steamy, kissing each other, it's so fast. So you end up having sex without a condom.

On the other campus studied, a much more cautious and risk-averse position was adopted. However, even on this latter campus there were some students and staff who occasionally practiced high-risk behaviours including high partner turnover, erratic or non-use

of condoms in oral and anal sex, avoidance of being tested for HIV and not wanting to know sexual partner status.

Not unlike the first-year students described above, MSM respondents described how many students come from restrictive home environments where homosexuality is discouraged and at university they do not initially manage their new-found freedom:

In my area, this 'homo thing' is something strange, so when you are home you have to hide yourself, don't expose yourself to the community. But by the time you come here to university, it's where you get a chance to explore, to be who you are. So by the time people who are homo come here on campus, they're just crazy. They finally have freedom and they just do anyhow. And then a person will regret later.

Furthermore, the gay communities described by focus group participants were characterised by dense, interlinked sexual networks which are typically associated with higher levels of HIV transmission.¹³⁸ Casual relationships and high partner turnover appear to be the norm, although strict condom use mitigated the risks of HIV infection in some gay sub-communities. Assessment of risks in sexual relationships was mostly based on intuitive perceptions of partner HIV status and risk behaviours although some MSM reported taking risks against their own better judgement.

Gay students are faced with opportunities to have sexual relationships for financial gain. One student described his own experience of this:

I've been involved twice with people who are doctors. Sometimes you'll see that they don't love you because they will give you money and they are like using you. So I've been involved with this stuff: bi-sexual people who pretend to love you but they don't love you because they just satisfy themselves and then they give you money.

Focus group members who described themselves as primarily homosexual reported that it is quite commonplace for them to have sex with men who also

have heterosexual relationships, creating a bridge for HIV to move between homosexual and heterosexual communities and vice versa. A male student described a typical scenario:

They don't talk about it. It's like, I visit you in your room, we have sex and nobody has to know about it. But the problem is, it happens continuously and always with different people, but it's kept under wraps.

This poses additional challenges for HIV prevention because such people will not typically be part of campus associations or gay peer-group communications where there are opportunities for HIV prevention education.

It was agreed by gay men in one focus group that bisexual men on that campus tended to believe that having anal sex with a man was a relatively safe activity compared to having sex with a woman. There was also evidence of misconceived risk avoidance practices, such as a belief in the protective value of washing after anal sex to avert the risks of HIV infection.

One participant described an experience with a circumcised man who felt that he was safe from HIV:

He started touching me and was very forceful and wanted to take my clothes off and he wanted to sleep with me. So I refused. Eventually, he took all his clothes off and he had been circumcised and I told him I couldn't sleep with him "without a condom because it's dangerous and it's risky". He's Xhosa and I'm Zulu so he tells me that since he's Xhosa and Xhosa people take off the foreskin, there aren't any dangers of him getting the disease from me or giving me the disease because he doesn't have the foreskin.

Homosexual men reported often being subjected to name-calling, verbal abuse and personal assaults, particularly on one of the two campuses where focus groups for gay men were held. There was little evidence of campus authorities asserting the constitutional rights of gay men and other sexual minorities to be treated equally and without discrimination, and on one campus an incident was related where campus

security staff stood by while a gay student was physically abused because of his sexual orientation.

It is important to note that MSM have been almost totally neglected in institutional HIV prevention efforts and the sexual health needs of MSM are clearly overlooked.¹³⁹ A male student articulated this point:

HIV pamphlets show a picture of a guy putting on a condom and then the penis going inside the vagina. But for gay people there is nothing showing how the condom is used by gay people. So most people do not understand why they have to use condoms if they are sleeping with gay people. There is nothing that caters for gay people.

Campus gay sub-communities avoided using campus health services for treatment of sexually transmitted infections and other sexual health problems because of strong perceptions that they will be met with derision when they present their problems. One participant explained how, "My greatest fear as a homosexual is contracting an STI and having to go to see a doctor." Another student described how student support services at his campus were not orientated to gay and lesbian students:

I broke up with my partner and I was very traumatised. I couldn't concentrate on my studies. I went to see social workers for counselling. I was scared at first, but I had to do it and I was very embarrassed because they asked me, "What's wrong with you? Why are you doing this?" They just made me to feel wrong, as if I deserved this. So I didn't get professional help.

Participants in focus groups said that while there was an understanding in the gay community that MSM faced a higher risk of HIV infection, many lesbians felt they were at low risk, and in the words of a lesbian female student, "They do not take precautions. Like I've never thought about asking my partner to go get tested." Another described the lesbian community as "very incestuous, everybody is having sex with everybody." She explained how there was a great deal of pressure to be sexually active in same-sex

communities, and that monogamy is much less likely to be seen as virtuous in gay and lesbian circles.

A number of suggestions were made regarding HIV prevention among MSM:

- Interventions need to go beyond awareness of risky sexual practices and include specific reference to managing these sexual risks. For example, there is a need to educate gay men about safer anal sex practices and use of condoms in homosexual acts between MSM. Information and education campaigns must also address STIs more directly. MSM are reportedly more concerned about STIs that are visible and tend to ignore those that are not visibly detectable. Substance abuse is reportedly high in MSM club culture; this tends to make people more prone to risk and must be addressed as part of HIV prevention.
- HEI programmes need to be developed to address HIV and AIDS and sexuality to mitigate stigma and develop life skills for gay and lesbian people and those belonging to other sexual minority groups. University authorities need to reinforce at campus level the constitutional vision of non-discrimination on the basis of sexual orientation, by official declarations and through campus media. Activities to educate and raise awareness and encourage understanding of diversity rights should be included in first-year student orientation programmes. Residence programmes need to address structural violence against MSM, for example, initiation rituals that portray homosexuality in a negative light, which creates a hostile environment for acceptance of MSM.
- Staff peer-education programmes must be sensitised to the needs of gay and lesbian people, who often suffer psychological trauma in the context of stigma and ridicule on campuses. Risk management services and local police need to be sensitised to hate speech and acts impacting on safety (both on campus and in the community).
- There is a strong need to promote health initiatives which are accommodating of MSM. Health care workers should be made aware of how to provide a non-stigmatising sexual health service and receive

training that more appropriately equips them to communicate with and advise same-sex practising individuals. This also holds for VCT counselling where counsellors show moralising and judgmental attitudes. Counselling staff and Health Promoters already employed in HEIs should receive intensive training on HIV risk management in gay and lesbian relationships. New Start has recently initiated a training programme that ensures that the counselling process does not only favour heterosexual lifestyles and is sensitive to same-sex needs, and this approach should be adopted on campuses. Existing peer-education programmes for HIV prevention should partner with organisations representing gay and lesbian people on campuses; and resources and facilities should be made available for associations and programmes representing gay and lesbian people.

INSTITUTIONAL HIV AND AIDS RESPONSE ENVIRONMENT

Campus leadership and HIV and AIDS management structures

Campus management and student leadership need to take heed of the perception on the part of a significant proportion of students and staff that they do not take HIV and AIDS seriously, as shown in the quantitative component of this study. This was a reflection of a lack of consistent, well-supported and visible HIV and AIDS response programmes, and a lack of vocal champions, including HIV-positive campus leadership.

In most HEIs it was found that student leadership was more negatively perceived than management. Students in particular tended to be critical of student leaders who failed to set a good example, either in terms of prevention behaviour or actively campaigning for improved HIV and AIDS responses. A female student described the need for student leadership to take a lead in responding to HIV and AIDS:

In the university, the most powerful people are the students. So if the students get together and talk

about it, as much as the Vice-Chancellor can do something, if we're not for it, there's nothing he can do. So as students, it's up to us to now to go outside and say, "People, let's talk about it".

It was felt that a more convincing demonstration of leadership would involve: being consistently vocal about HIV and AIDS issues; acting as role models in undergoing HIV testing; challenging HIV-related stigma and more openness on the part of leadership about the effects of HIV in their own lives. "If the university came up with a way of saying 'We recognise HIV and will do something about it', then our staff and students will be free to talk about it," said one focus group participant.

The qualitative study found that such perceptions were shaped by lack of visible and vocal HIV leadership. This is not to say that leadership is perceived as being unresponsive to HIV and AIDS, but rather that HIV and AIDS is not seen as a strong priority on most campuses.

On no campus did there appear to be a cohesive HIV and AIDS response framework that included active representation of students, management, labour unions, health and social support services and HIV-positive leadership. There was little evidence of HIV-positive leadership on campuses and consideration must be given to how to involve HIV-positive people in promoting 'positive living' and consulting them on campus HIV-related services.

Coordination and leadership of essential HIV and AIDS responses tended to be left to specialised units, clinics, associations and in some cases, external organisations. A lack of coordination was often described, "among departments who may be running different HIV programmes, but don't know each other". This means that human resource departments, staff unions, Student Representative Councils (SRCs), academics and workplace managers tended to see HIV and AIDS as an exceptional concern to be dealt with as a project, rather than a core concern. As well-meaning as the campaigns were, it appears that their seasonality and lack of embeddedness

contrasted with the ordinary circumstances in which the drama of becoming infected with HIV, discovering one's HIV status and managing HIV play out. This clearly points to a need to embed HIV and AIDS as a regular and important everyday concern of all in campus management structures. A student believed that HIV and AIDS programmes "must not come once and then disappear". A male staff member added, "That's why everything that we're trying to build is just going down, because there is no follow-up. I believe that's how we can manage this sickness, rather doing something just once because its 'HIV month'."

There was much evidence of inefficiencies and lack of planning relating to HIV and AIDS responses including: unnecessary delays in adopting HIV policies and strategies; HIV units and programmes not connected to central HEI management structures; plans not budgeted for; poor coordination of responses and functions assumed by different individuals, departments, societies and campus management structures; and opportunities for external assistance and funding not being taken up. One staff member told how at her institution, "There's a lot of talking that goes on, especially when it comes to strategising"; there's a need to shift from dealing with AIDS "theoretically to being practical. Strategies are there, it's really a matter of implementing them."

Perhaps most notable in campus HIV response management was that the bulk of campus response efforts were focused on student prevention. There was relatively little effort placed on addressing the prevention needs of staff members, which on most campuses were considerably greater considering the much higher levels of infection in the staff population. Also, responsiveness to the health and psychosocial needs of HIV-positive staff and students was often seen as the responsibility of health services on campuses, which were generally inadequately resourced.

Human resources departments were generally perceived as doing relatively little in the field of HIV and AIDS, although on at least two campuses (see the 'Promising Interventions' section below), human

resources departments had taken responsibility for active staff peer education campaigns.

Questions about accountability and responsibility for managing infection prevention, seeing to the needs of HIV-positive people and ensuring the effectiveness of interventions were often vaguely responded to, and even those most centrally involved tended to not adequately talk about the apportionment of responsibilities and commitments to developing services. Even when some of those involved were engaged in ambitious plans to intensify HIV testing, obtain accreditation for provision of ART and PEP on campus, or improve sexual and reproductive health facilities, it was in almost all instances with a sense of uncertainty about whether their plans would be supported and a lack of confidence that they were strongly backed by management. In many instances, where programmes were in place due to external funding, there was considerable uncertainty about whether these initiatives would continue to be supported when external funding ceased.

Voluntary Counselling and Testing (VCT)

There were few signs that VCT has been optimised for prevention. It is important to understand why, in an era where HIV testing is being widely promoted and given the opportunity to be tested on campus, there has not been greater uptake of HIV testing, particularly among students. The risk of stigma and rejection and a lack of understanding about positive living contribute to individuals being unaware of their HIV status. Students and staff reportedly fear the outcome of testing and/or seek to delay testing, preferring to wait until either their studies are completed, they decide to marry, or they begin to feel sick. There was a strong sense that the stress of knowing one was HIV positive would be too much to bear, and that finding out would induce sickness. It was thus seen as better to live without knowing. A male student explained, “To be honest, there is this culture that we have developed, that it is best if we are not sure [of our HIV status].” Another student shared about a friend who’s “afraid of getting tested because she says she’s okay now, she’s healthy. She’s scared that if she gets tested

and she finds she’s HIV positive, she’ll get sick. She says she’ll never get tested.” Several staff members involved in campus testing services described seeing students who tested negative resume the behaviours that put them at risk, only to return for subsequent HIV tests. A male student said that for some of his friends, testing negative “was a booster for them to go wild again.”

As discussion of HIV testing is still an awkward topic for many couples, couples’ testing was quite rare across institutions. A student described how:

A lot of my female friends tell me, “I’m still begging my boyfriend. It’s been five years and he doesn’t want us to go for an HIV test, we are using condoms but the issue is that we still need to know our status because mistakes do happen.”

Men in relationships were described as less inclined to find out their HIV status – instead, “the burden is placed on women” to test. Participants described the misconception that if one’s partner tested negative, they didn’t need to test. A female student explained, “He says, if you’re fine then I’m fine”. A male student described how “it becomes very difficult for one to ask his or her partner to go with them because you are scared of what the results will be. What if it happens that one of you becomes positive right on the spot? You’re going to freak out.”

Another factor affecting low VCT uptake was the perception that there is limited support available on campus for those who test positive. One focus group participant said, “people are afraid to come and do the tests, because ‘what is the use of me testing? Where am I going to go?’ Because the process has never been spelt out where they say ‘you do this, or this is what is going to happen, and this would be the follow up.’”

The quantitative component of this study illustrates high levels of having been tested before at institutions among students. Innovative campaigning and testing drives can be credited for encouraging people to test, though many in the qualitative study felt that those who were most at risk may be least likely to test.

On campuses with low levels of VCT uptake, concerns about the quality of service, confidentiality, limited hours and slow appointment systems provided disincentives to test on campus. External VCT service providers like New Start were popular given greater perceived anonymity, but there were instances where coordination was lacking between the institution and service providers, as referrals to existing support structures on campus were not made to people who tested positive.

Security and protection from harm

The quantitative data shows that many staff and students felt subject to physical harm, sexual harassment and violent crime on campus, although this varies across regions.

Campus security was regarded as inadequate on all campuses. Among problems identified and discussed in focus groups were: access to some campuses not being regulated or monitored (“anyone can come and go”); campus security staff “looking the other way” for a small fee and allowing access to residences and campuses against regulations; security staff lacking authority and being disregarded with impunity by students; lack of responsiveness of security staff; security equipment like panic buttons not serviced or in working order; turnover of outsourced security staff with new staff not briefed on regulations or expectations; lack of enforcement of regulations relating to bringing alcohol onto campuses. One female student described why she felt unsafe on campus: “I recently heard those cameras are not working and now I’m really scared. I’ve been putting myself at risk all this time. Now I don’t even dare walk at night.”

Security and management of access to residences varied greatly across campuses. Some campuses had clear access regulations and enforcement, but in other campuses there are no significant regulations, or regulations were not enforced.

Perceptions among individuals who did not feel safe from sexual harassment should be of some concern. On some campuses there were disciplinary

procedures for staff and students to report grievances and an expectation to have them fairly investigated and addressed. On other campuses such disciplinary structures and procedures were discredited or dysfunctional. A student explained why some students are wary of making formal complaints:

As a student, if you go and tell someone in the management that some of the lecturers are doing one, two, three, it’s gonna be your word against theirs and because they are colleagues, they take their word. The way they handled it, I won’t come and report it because of the fear that I’m gonna fail. These situations do happen, but disclosing them is quite a difficult thing for students to do.

Unwanted and often insistent sexual advances constituted the most widespread forms of sexual harassment. This was reported by female students with male students as the primary perpetrators. There were also reports of harassment by staff, including security staff at gates making lascivious remarks to passing students, staff making unwanted and uncalled for sexually suggestive remarks to students, and academic staff misusing their power over students who felt obliged to ‘flirt back’ or give in to sexual advances lest their marks suffer the consequences. A female student felt that staff at her university “need to leave students alone”. Related to sexual harassment, there are some university-endorsed activities that are seen as demeaning to women’s dignity and rights, including ‘car wash’ fundraisers, ‘RAG’ events, and campus-produced magazines. Counteracting this, however, were some campuses where there were students and members of staff who were actively concerned about women’s rights and lobbied against sexist activities.

Focus group discussions suggested that ‘date rape’ is a significant problem on many campuses, and that those who experience it are unlikely to ask for help or file a complaint with the police or campus authorities. A female student described a common scenario of sexual coercion:

Other people can’t really differentiate between rape and date rape because they think that “since so-and-

so's my boyfriend, it is fine to have sex with him whether I want to or not". They can't really differentiate between the two. Most people find themselves in situations where they have sex without wanting to.

A female student said how "there's a lot of that happening where maybe my boyfriend gets violent, but he's my boyfriend and so no one is going to believe me." It was suggested in several groups that there are many male students who do not take 'date rape' accusations seriously, further suggesting that gender-based violence is a problem that needs to be addressed on campuses, with both male and female students and staff.

Campus support services

There was a range of student support services across campuses although these varied greatly by type and focus. On some campuses students were barely and sometimes not at all knowledgeable about existing services. On other campuses there was a range of health and counselling support services and students appeared to be well apprised of these.

Campuses were distinguished by the degree of proactive support provided to students. There were at least rudimentary support services on all campuses, but in many instances these appeared to be perfunctory rather than actively invested in and shaped to optimise student well-being. Campuses with strong student support services provided comprehensive services, from academic support to dynamic residence management and support structures, university-funded counselling services, health services with an active outreach and health education component, student peer-education, and disciplinary procedures aimed at creating well-regulated social environments and closely managed campus security measures. At the other end of the continuum there was almost no involvement of residence managers in the lives of students to the point of not even knowing the names of students in their own residences, collapsed and contested disciplinary structures and processes, and very limited counselling support structures and health services that were ill-equipped to serve large numbers of students. There

were some remarkable exceptions to the general climate of student support on some campuses, usually reflecting the extraordinary dedication of health care and psychosocial professionals on these campuses, often operating with very little institutional support and inadequate resources.

Residences varied greatly across campuses with respect to degrees of support provided. On some campuses there was little to no residence management and students were largely left to their own devices. A female student explained how "We are not given that much education about anything at the residences. We are not well-informed and don't have a support structure. When we have problems, we don't know who to go to." On other campuses, residences were governed by rules and the well-being of students was considered part of the concern of residence management and governing structures. There was open acknowledgement of the inadequacies of residence support to students on some campuses. It was felt that residence staff were not adequately trained to provide support to students and the residences themselves are often not socially healthy environments. Conditions in some residences were dire. There were reports of students paying to 'squat' in residences, with as many as six students sleeping in one room on a particular campus. In such residences there were few rules and equally little oversight by campus authorities. This worked against an ordered social environment.

The degree of direct concern and management of student well-being was clearly greater on those campuses with a greater proportion of students in residences. Those campuses feature residences that were more closely managed with roles and responsibilities overseen by managers, wardens, matrons, sub-wardens, and house committees. Smaller campuses with higher proportions of students in residence tended to have more comprehensive services, and some universities clearly invested in developing these various 'cultures' of student support. This appeared to reflect, if not create, a student social environment which was more or less experienced as safe, containing and nurturing. By contrast, the lack of regulation on some campuses was remarkable and appeared to be reflected in an

equally remarkable lack of self-regulation in the lives of students.

Support services on most campuses appeared not to be geared to serving the needs of staff. For example, on some of the campuses with the most well-developed counselling support services, there were no counsellors available who could speak the languages of service staff, some of whom are barely proficient in English and Afrikaans. Staff on a number of campuses expressed that they did not think of these services as being ‘for’ them and for this reason did not use the services. Furthermore, such services were often only marketed to students.

Many suggestions were made in focus groups about how more nurturing and supportive social environments could be created in campus communities. Most notable were suggestions aimed at increasing levels of social learning especially aimed at supporting vulnerable students. Peer-counselling or mentoring was frequently proposed, and particularly the use of older students who are in a position to share their experiences of dealing with the lifestyle and sexual health risks at university, to help new students adapt to the tertiary environment. While each institution had a first-year orientation programme, some institutions appeared to focus on academic issues to the neglect of life skills and student support. Substantial feedback across institutions indicated the need to provide formal support to students in the months following Orientation Week (also regarded as the biggest ‘party week’ of the year), as they settled into university life and encountered significant social challenges and temptations. Lastly, there were also suggestions for the provision of education and support programmes geared to the particular needs of day students, for example, by instituting an official lunch hour when day students could participate in extracurricular activities.

HIV positive care and support

The qualitative study involved 107 people who were known to be HIV positive in focus groups or individual interviews. This participation provided extensive insight into the circumstances that contribute

to infection, experiences of being HIV positive on campus, and recommendations towards care and support.

Based on the number of students that reported having tested for HIV in the quantitative component of this study, it is likely that many students and staff know that they are HIV positive. However, most focus group respondents said they did not know anyone on campus who openly admitted their HIV status. “If I look around this university, the environment is not conducive to speak freely about HIV,” said one respondent. Though the quantitative data indicated that expressed levels of stigma are low, qualitative findings showed that profound levels of perceived stigma exist on campuses, often in subtle forms, e.g. avoidance of shared toilets, distanced friendships, and extensive gossip and suspicion about people’s HIV status. This contradiction was also borne out in the quantitative findings, where the majority of students and staff felt they would not be supported by their friends if they were known to be HIV positive.

In the qualitative study, disclosure, even in private settings, was deemed too risky for many HIV-positive people to consider. Fearing rejection, HIV-positive students described first ‘testing the waters’ to assess peers’ attitudes towards HIV and AIDS, and circumstances where disclosure happened inadvertently. In the necessary course of caring for oneself, many felt compelled to disclose to a roommate, lecturer or supervisor when they ordinarily wouldn’t have, in order to explain absences or health conditions. When disclosure did take place, they were often met with insensitivity, disbelief or found their privacy compromised when having to explain how they ‘got it’. An HIV-positive student shared how “People would have the audacity to come to my room and say, ‘Is it true? We heard a rumour that you are HIV positive.’ So I felt obliged to explain, but really was not in a position to talk about it at that time.” The perception existed that many university students weren’t prepared to live with someone who was HIV positive, given concerns about being stigmatised through association or exposed to the virus through casual contact.

While students and staff might be encouraged to know their status, available health care, psychosocial services, and basic needs for support for those who tested positive varied across institutions, with overall low levels of HIV-specific support available. One qualitative participant explained how “Everyone is told to go and test but they aren’t told what to do after testing. There isn’t a support structure whereby when you finish testing positive or negative, they recommend you go to the social workers on the second floor and get involved in some kind of programme where you can get information that will help you cope with the situation better.” While there are institutions with some measure of support available to HIV-positive students and staff, it is often not well-communicated; a focus group participant explained how “there are a whole lot of students and staff members that are positive. They get care outside because they don’t know what the university says about people living with the virus.” Lack of access to ART on or near campuses was reported as a major problem for staff and students who lacked medical aid and who had to queue for hours to retrieve their treatment each month – often missing classes or work.

When services and support group opportunities were available, students and especially staff were reluctant to use them due to the perceived risk of being labelled HIV positive. The risks of being seen as HIV positive in this context were seen as profound and a significant disincentive to being open about one’s HIV status and to seeking help on campus, creating the likelihood of not being able to engage in courtship and relationships, and inviting ostracisation and/or unwanted pity. An HIV-positive student described the common perception that “we don’t know how other students are going to look at us if they know that we are HIV positive; other people don’t understand this thing.”

HIV units had little to do with HIV-positive students, who were more often supported at the health centre. Participants said they would be more inclined to access ‘wellness centres’ in contrast to ‘HIV units’, wanting to avoid structures that exceptionalised HIV and AIDS. It appeared that there were many different needs of HIV-positive staff and students that went unmet. One staff member involved in providing HIV and

AIDS care and support described how the programme failed to address some of the basic support needs of HIV-positive students:

Sometimes we run a fragmented service in that we provide treatment, ongoing support in terms of counselling and so on, but what about food? How can you have the medication without having something in your stomach? So maybe as service providers to students, we can be empowered to render the total and complete service to them. It might be better to say, “What’s happening academically, what’s happening in terms of the fees, food, do you have food?”

There were, however, many excellent examples of HIV support to be found at some institutions. A number of campuses had health promoters who were externally funded by DramAidE and the U.S. government’s President’s Emergency Plan for AIDS Relief (PEPFAR), or in a few noteworthy cases, employed directly by the institution. The health promoters live openly with HIV, raise awareness about HIV and AIDS and support staff and students who are HIV positive. They were highly regarded for challenging overly negative and fatalistic conceptions about what it means to be HIV positive, for personalising HIV risk and for encouraging people at the university to know their status.

In environments where HIV-positive people felt uncomfortable disclosing or asking for help, the health promoters were considered a valuable and trusted source of support, providing an example of how to live healthily, accept one’s status, access treatment, and maintain a positive attitude towards life. On many campuses the health promoters were the focal point for mutual support among HIV-positive people. A support group member shared about her valuable relationship with the campus health promoter:

For me, it really makes a big difference in my life because if I didn’t have him, someone I could relate to, a lot of things could have happened to me. But because he carries on, I can too and I wake up thinking, another beautiful day for me. He has been HIV positive for so long, so I can live that long too!

Campuses that previously participated in this programme were described as less supportive environments for HIV-positive people than in the past. The programme is not without its challenges, however. In some instances, health promoters demanded supervision beyond what was available, lacked the necessary skills to excel, and needed further training in project management and HIV and AIDS prevention, support, and treatment.

Where support groups (which were facilitated by health promoters in most cases) were functioning well, members were notably more confident, accepting of their status and well-informed about how to manage their illness. One group member described the importance of this peer support:

When you find out that you are HIV positive, you need a shoulder to cry on because to be honest, you can't handle this on your own. You find others who may share problems that were similar to you or may be worse than yours. Then from there they [the group] will counsel you from their experience; you get advice from them and that boosts yourself inside. It's where you realise that "I have a family here at school, although I'm HIV positive, there are those who care for me."

Most institutions do not have HIV and AIDS support groups due to several factors, namely the poor promotion and availability of HIV and AIDS support resources, absence of HIV-positive leadership on campuses, concerns about stigma that have some HIV-positive students and staff wary of identifying themselves, lack of support group facilitation skills and materials, and a general lack of institutional commitment to caring for students and staff with HIV and AIDS.

Campus health

Students using sexual and reproductive health services often felt that health service staff were critical of their being sexually active and unsympathetic to their needs. On a number of campuses, students felt that it was preferable to use other services, which

were perceived as more youth-friendly. As one female student noted:

When you go there the nurse will say "Why do you want the morning-after pill, why are you having sex?" The sister will shout at you and you will even be scared to tell her "I am having STIs", so they don't use the clinic.

Examples were also given of nursing staff and counsellors whose personal religious beliefs impacted the advice they gave, such as in advising students against seeking abortion. Concern regarding the confidentiality of clinic staff was also expressed and several examples were shared of staff who gossiped about their patients' condition or HIV-positive status. A staff member described the sense of mistrust in some clinic employees:

You do not go to the clinic, being afraid the nursing staff will know, they live with you in that area and they will start talking about you. The nurses will go through your file and will start telling their friends about your status.

Similar perceptions were found at a variety of institutions and though such claims were not substantiated in this research, it suggests that there may be staff who are not appropriately sensitised to their patients' needs for privacy and care that is free of moral judgments, and/or that misconceptions about the quality of campus health services exist and should be corrected. As one HIV-positive staff member said, "we want our confidential information to stay confidential".

There were some institutional health services that actively promoted their services through campus web and email forums, posters, brochures, workshops and presentations. Other sites failed to actively market the clinic services that were available to students and staff, beyond a possible one-off health session during Orientation Week, evidenced by a student who said, "I only knew about the clinic last year; this is my third year here". A few frustrated students described how some services that were advertised by the clinic were not in fact available to them. Some campus staff

mentioned the challenge of getting students to participate in education programmes run by the clinic. After-hours programmes that engaged students at their place of residence were regarded as more successful. Other institutions told of how staff shortages prevented them from providing wellness education to the campus community.

Student health staff described how many campuses saw fewer men accessing clinic services than women. A male student explained that:

We are coming from a society whereby we believe that clinic and doctors are for women. If a man is going to a doctor, it's like "now I have a very serious problem". So you believe that I will deal with this thing, it's very hard to find a man going to consult a counsellor or going to clinic. So us and the clinic, we are enemies.

Concerns were expressed about a few institutions whose student health centres were privately owned. Focus group participants suspected that these facilities might be too profit-driven, charging fees higher than many students could afford to pay.

University staff members who had medical aid were more likely to utilise private doctors than access campus clinics. Some institutions were not open to staff, a need that is primarily felt by staff who lack medical aid and feel "they don't care about staff here, they're only about students".

Staff outreach

It is notable, given that HIV prevalence is higher in both service and administrative staff than it is in students, that most HIV and AIDS programmes were directed towards students, to the near-exclusion of staff. The majority of universities did not target the needs of staff in HIV and AIDS initiatives and it was apparent in the quantitative component of this study that in most indicators of campus HIV and AIDS responses staff, and particularly administrative and service staff, were least exposed to campus initiatives. Concerning the burden of HIV and AIDS, the quantitative component

showed that the burden of HIV and AIDS care and support in families was highest in these same two staff categories, yet there was almost no evidence on any campuses that there had been efforts to assist staff to cope with this burden – either in terms of education or any other forms of assistance. A service staff member complained how the university is "only taking care of the students, they don't care about us."

Many of the staff in focus groups were only vaguely or not at all aware of the existence of campus HIV and AIDS policies. Clearly HIV and AIDS responses on the part of HEIs have not been a staff union issue of much discussion or concern.

The responsibilities of HEIs to service staff appear to be less than clear in many respects. Many campuses have outsourced services in which case HEIs were not usually seen as responsible for HIV and AIDS education or health care. However, some campus health clinics did not provide health services or even VCT to university staff – even when staff were not members of medical aid schemes.

Some universities had conducted HIV and AIDS education drives oriented to staff but this appeared to be largely one-off basic awareness activities. On only a few campuses were there staff peer-education groups which had a more continuous and systematic programme of action.

The failure of HEIs to respond to the HIV and AIDS-related needs of their service staff was nowhere more apparent than in the lack of support for HIV-positive people. Although one in eight service staff were found to be HIV positive in the present study, very few of them attended the HIV-positive support groups that existed on campuses. There were many obstacles to this including the fact that these groups were largely oriented to students, were difficult to attend during work hours, or facilitated in English or Afrikaans when many service staff were more comfortable learning in another language. HIV-positive staff expressed the need for more systematic forms of support from their universities. Also strongly expressed was the need for better training of managers

in understanding workplace and psychosocial issues facing HIV-positive staff.

Funding support for poor students

Relatively few students qualified for the bursaries and scholarships awarded by private sector companies and large NGOs, which provide generously for student needs. Far more students relied on smaller bursaries and loans such as those from the National Student Financial Aid Scheme (NSFAS), a statutory body funded by the Department of Higher Education and Training.¹⁴⁰ Extended to academically able but financially needy learners studying in scarce skills areas, the average NSFAS loan of R11 483 per annum was noted to be low, given tuition fees, books, transport and living expenses.

Poorer students living away from home reported that they struggle to meet the most basic requirements for life: a safe place to stay and money for food. But for many it was not only the most basic necessities that were desired. Fashionable clothing, mobile phones and entertainment money were regarded as necessary, and not adjunct to, an acceptable lifestyle. Some students took on part-time work to fund basic living and lifestyle needs but data showed that others develop less salutary coping strategies. Some students re-routed monies that families and funders allocated for books, fees and food, into purchases and activities that were less to do with their studies than with acquiring social status. Others rented out their rooms in university residences, which led to 'squatting', overcrowding, and increased sexual opportunities and vulnerability. In some cases, students resorted to high-risk behaviours such as transactional sex in which they become both 'predator and prey'. A staff member described the situation on her campus:

Our students are really struggling to make ends meet. They don't have enough bursaries so that they can afford living. When you look at them, sometimes you feel sad, because really there is no source of income to most of their parents around here. They are not employed. We attract students from the poorest of the poor around here. So you'd imagine how they survive.

Many students came from poor socioeconomic backgrounds and lacked adequate funding to provide for their basic needs. On many occasions in discussion groups it was reported that some students were "hungry". Poor students and especially poor HIV-positive students require food support.

PROMISING INTERVENTIONS DERIVED FROM THE QUALITATIVE STUDY

In the course of the qualitative study, many innovations in HIV and AIDS response were encountered that stood out from the norm. A selection of these are briefly summarised below:

- There was generally little evidence of cross-fertilisation and exchange of knowledge across institutions. Campuses seemed not to learn from each other, collaborate, nor extensively share ideas for what makes HIV prevention strategies and campaigns successful. That said, the HIV and AIDS units from the four Western Cape HEIs met quarterly to update each other on their activities, discuss challenges, and share good practices – and there was evidence of sharing of successful innovations between these institutions. In addition, the University of Pretoria hosted an annual 'Imagined Futures Conference' that created a platform for students, academics and HIV and AIDS programme staff to interact about HIV and AIDS issues and response.
- Stellenbosch University and the University of Cape Town created an appealing student culture around voluntary counselling and HIV testing through launching testing campaigns that featured attractive bracelets that are given to students. Students received particular beads when they attended an HIV and AIDS event and made an appointment to go for an HIV test, and another when they received their results. This reduced stigma around VCT by normalising testing and prompting general discussion about knowing one's status.
- Of all the sites that participated in the Health Promoter Programme, a few stood out as having created vibrant communities of support

among HIV-positive people. Notable among these were the care and support programmes at the University of Venda and the Durban University of Technology. The health promoters' commitment to the well-being of HIV-positive people on campus was reflected in the lively and well-attended support groups they facilitate.

- The University of the Western Cape HIV and AIDS programme created posters and computer 'wallpapers' that featured compelling and attention-grabbing HIV and AIDS prevention messages in an appealing graphic design. The wallpapers were available for students to download on the web and were highly visible as the featured desktop background on student lab computers. Further, the programme's website [<http://hiv aids.uwc.ac.za/>] stood out for its aesthetic appeal and for being a comprehensive source of information on the institution's peer education programme, care and support services, HIV and AIDS policy, relevant courses and research projects. The site also hosts a discussion forum where people can anonymously discuss questions and issues related to HIV and AIDS and sexuality.
- The Dean of Student's Office at Rhodes University conducted research on alcohol use on campus. Understanding that regular, excessive drinking is a behaviour among students that increases sexual opportunity, affects health, and is detrimental to academic achievement, the department undertook a strategy to promote responsible drinking and engaged with student societies to host events that were alcohol-free – thus thus offering students an alternative kind of social activity.
- There were several campus clinics that provided extensive HIV-oriented health services, among them the University of Cape Town and the Nelson Mandela Metropolitan University. Comprehensive health care included the provision of meal supplements, immune boosters, vitamins, CD4 counts, viral load tests, pap smears, TB tests and care for opportunistic infections. The University of Fort Hare notably assisted HIV-positive people in accessing treatment by facilitating appointments at, and providing transport to, the local hospital ART sites.
- Many campus HIV units seemed to operate independently from the campus health service; however, in understanding that HIV risk is intertwined with reproductive health, the University of KwaZulu-Natal HIV and AIDS programme was one initiative that collaborated closely with its campus clinics. Clinic and HIV and AIDS programme staff met monthly to discuss the current sexual health needs of students and staff and how best to respond. The HIV and AIDS programme also collected clinic data on VCT, contraception, STIs and pregnancy from each campus. Such cross-departmental cooperation and knowledge-sharing is critical to an informed and targeted prevention strategy.
- There was a general finding that many students and staff were disinclined to report instances of sexual harassment, rape and other forms of misconduct, due to a lack of confidence in disciplinary practices. Rhodes University was noted to take a procedural and accountable approach to all disciplinary offences. After an instance was heard, the outcomes were publicised on the university email system, as were any campus security concerns, in order to inform all members of the community. Further, depending on the matter, 'punishment' often involved providing some kind of community service. Handling misconduct in the open created the perception that the institution was serious about addressing discipline problems and that it was therefore worthwhile to file a complaint if the need arose.
- Orientation programmes provided a critical opportunity to reach first-year students. A few institutions had begun to look at how to expand new student support beyond their first week on campus. The University of Pretoria had a mentoring programme involving 600 mentors (who were each assigned 5–10 new students) who served as role models to help ease the first-years' transition into higher education. The Cape Peninsula University of Technology offered ongoing workshops to new students throughout their first year.
- The HIV and AIDS peer-education programmes at the University of Pretoria and the University of the Western Cape stood out as particularly successful, featuring a range of engaging student-led prevention activities including drama groups, residence workshops, media and marketing projects,

marches, games, poetry slams, VCT counselling, community outreach and more. The peer educators at these institutions received extensive training and the programmes were structured in a way that presented a variety of opportunities for students to develop their leadership, grow within the organisation and participate in a variety of activities.

- The differences between male and female students with respect to norms and expectations around fidelity in relationships and casual sex were notable. While many prevention programmes were challenged by a lack of male involvement, some have succeeded in meaningfully engaging males, particularly EngenderHealth's 'Men as Partners' programme which operates at seven institutions. Through peer education and awareness campaigns, the project addresses masculinity and gender-based violence, promotes equitable relationship norms, and encourages males to know their HIV status, attend to their sexual and reproductive health, and take responsibility for limiting partners.
- Adequate distribution of condoms proved to be a challenge for many institutions. The University of KwaZulu-Natal responded to this need by appointing a staff person who was responsible for condom distribution across the different campuses. This staff member ensured that condoms were readily available by systematically monitoring and refilling dispensers, resulting in distribution of over a million condoms each year.
- Recognising the need for interventions that specifically addressed staff, the University of the Free State, University of Zululand, and University of Johannesburg initiated peer-education programmes for staff. The University of the Free State also offered a model on how to reach staff and address the affects of HIV and AIDS through

the employee assistance programme on campus. The University of Pretoria's Centre for the Study of AIDS developed a staff manual on HIV and AIDS which presented clear information about the university's policy, prevention of HIV infection, VCT, how to access ART in the public sector and through the institution's medical schemes, positive living, and HIV and AIDS in the workplace.

- The extensive recreational facilities at Rhodes University, Stellenbosch University and the University of Cape Town were well-maintained and provided students with a variety of ways to socialise, exercise and participate in enjoyable activities during their leisure time. Diversion opportunities lessened the need to seek sex and alcohol as students' sole entertainment on campus.
- There were a number of HEIs that had well-regulated residence systems – such as at Rhodes and the University of Cape Town – that were dedicated to student well-being, had disciplinary hearing structures in place as well as active house committees, and that fostered a culture of pride and community within individual residences.
- Some institutions had taken initiative in developing approaches that addressed HIV and AIDS curricula across departments, thereby stimulating students' intellectual curiosity on the subject. The University of Cape Town and the University of Pretoria were notable in this respect.
- Lastly, while the particular needs of disabled people have gone largely unnoticed in most prevention programmes, the University of KwaZulu-Natal undertook an innovative idea to develop HIV and AIDS materials in Braille to ensure that blind students and staff can more easily learn about HIV prevention and care.

SECTION FIVE

Discussion and Conclusions

HIV PREVALENCE FINDINGS

HIV prevalence by demographic categories

The most striking finding arising from the HIV prevalence results in this study is that the measured prevalence in students, academics and administrative staff is substantially lower than expected in comparison to national prevalence levels. While the distribution of HIV follows national patterns in terms of sex, race, age group and education, the HIV prevalence is lower in these sectors of the higher education population within all these demographic categories. However, the HIV prevalence among service staff is more similar to estimates from other studies.

It is probable that there will be confounding factors, particularly by race and age, in all studies when comparing crude data, but this is not likely to account for such substantial differences as have been observed.

Table 53 Comparison of HIV prevalence for the combined higher education population with other recent surveys

HIV Prevalence	Age Group	Study date	Data source
2,9%	18–49 yrs	2008/9	Present HEI study
16,9%	15–49 yrs	2008/9	HSRC study ¹⁴¹
12,7%	> 18 yrs	2004/5	Educators study ¹⁴²
15,7%	> 18 yrs	2002	Health workers study ¹⁴³
10,9%	> 18 yrs	1999–2005	Colvin et al ¹⁴⁴
28,0%	15–49 yrs	2007	Antenatal data ¹⁴⁵

Table 53 shows that the mean HIV prevalence found among those aged 18–49 years in this survey (2,9%) is significantly lower than all other studies whether conducted in the general population (HSRC study), in working populations or among antenatal clinic attendees.

Table 54 Comparison of HIV prevalence among youth with other recent surveys

HIV Prevalence	Age Group	Study date	Data source
0,7%	18–24 yrs	2008/9	Students in this study
8,7%	15–24 yrs	2008/9	HSRC study ¹⁴⁶
10,2%	15–24 yrs	2003	RHRU ¹⁴⁷
6,5%	18–24 yrs	2004/5	Educators study ¹⁴⁸
26,8%	15–24yrs	2007	Antenatal data ¹⁴⁹

When looking at youth only, the above table shows that the prevalence of HIV is substantially lower than has been reported from other studies of youth in the same or similar age group.

All major, community-based HIV prevalence studies conducted in South Africa (HSRC and RHRU) have found that overall, more females are HIV positive than males. This is in contrast to the last three studies in the above table which focused on various employed populations where more males or equal proportions of males and females were found to be HIV positive. However, when only youth are considered, there are

Table 55 Comparison of HIV prevalence by sex with other recent studies

Male HIV prevalence (%)	Female HIV prevalence (%)	Age band	Study dates	Study
0,2	1,1	18–24 yrs	2008/9	Present HEI study (students only)
5,4	4,2	> 18 yrs	2008/9	Present HEI study (staff only)
7,5	20,0	15–24	2002	RHRU ¹⁵⁰
4,4	16,9	15–24	2002	HSRC ¹⁵¹
8,2	13,3	2+ yrs	2005	HSRC ¹⁵²
4,4	10,3	15–24 yrs		
2,5	6,7	15–19 yrs	2008/9	HSRC ¹⁵³
5,1	21,1	20–24 yrs		
11,3	9,8	> 18 yrs	1999–2005	Colvin et al ¹⁵⁴
12,7	12,8	> 18 yrs	2005	Educators study ¹⁵⁵
18,9	15,3	> 18 yrs	2002	Health Workers study ¹⁵⁶

Table 56 Comparison of HIV prevalence by race between this study and other recent studies

African HIV Prevalence (%)	Other races' HIV prevalence (%)	Study dates	Age band	Study
5,6	0,3 White 0,8 Coloured 0,3 Indian	2008/9	> 18 yrs	Present HEI study Students only
17,2	0,0 White 2,6 Coloured 0,0 Indian	2008/9	> 18 yrs	Present HEI study Service staff only
16,3	0,4 – White 0,7 – Coloured 1,0 – Indian	2005	> 18 yrs	Educators study ¹⁵⁷
19,9	0,5 – White 3,2 – Coloured 1,0 – Indian	2005	15–49 yrs	HSRC ¹⁵⁸
13,6	0,3 – White 1,7 – Coloured 0,3 – Indian	2008/9	> 2 yrs	HSRC ¹⁵⁹
16,6	2,7 – Other	1999 to 2005	Employees > 18 yrs	Colvin et al ¹⁶⁰

substantially more young females living with HIV than young males in all studies that report on youth.

In the present study, female students overall were more than twice as likely to be HIV positive than males, but when considering only the age group younger than 25

years, females were almost six times more likely to be HIV positive. This gender difference was substantially lower in the present study when students were excluded (i.e. only employees included) with males being more likely to be HIV positive than females. This is in line with all the other workplace studies. This is

an important finding because it suggests that employment influences HIV prevalence among females.

All major studies in South Africa have reported that the prevalence of HIV is concentrated among Africans. In this HEAIDS study, although the HIV prevalence among Africans was lower than among Africans in other recent studies, the prevalence levels among the other race groups is similarly lower in comparison to other studies.

It is possible that, even with relatively high participation levels, when the HIV prevalence is low in certain sub-populations, if the few people that are HIV positive do not participate then a very low prevalence will be reported rather than a low prevalence.

Table 57 Association between HIV prevalence and level of education

HIV prevalence (%)		Study date	Data source
Tertiary education	No tertiary education		
2,7	9,0	2008/9	Present HEI study Staff only
14,6	17,3 – Matric or less	2002	Health Workers study ¹⁶¹
6,5	15,3 – Matric 14,9 – High school	2002	Health Workers study ¹⁶²
7,1	13,6 – Secondary 18,1 – Primary	1999–2005	Colvin et al ¹⁶³

Most studies with data on the association between education level and HIV prevalence, report that HIV is modestly lower among people with a tertiary education. Again, this is likely to be confounded by race but this study found that those with no tertiary degree were 3,3 times as likely to be HIV positive when compared to those with a degree.

In summary, the HIV prevalence results in the higher education sector are lower than in the general community but the patterns of infection are consistent with what has previously been reported.

HIV prevalence in institutional categories

For the purposes of the quantitative study, the HEI population was divided into four categories: students,

academic staff, administrative staff and service staff. While there are overlaps between these populations in terms of race, age and economic status, there are distinct differences across a range of indicators.

Academic staff have the lowest overall HIV prevalence at 1,5% [CI: 0,9%–2,3%], followed by students at 3,4% [CI: 2,7%–3,4%], administrative staff at 4,4% [CI: 3,2%–6,0%] and service staff at 12,2% [CI: 9,9%–14,9%]. Service staff are significantly more likely to be HIV positive in comparison to other institutional categories.

Varying proportions of students and staff missed classes or work as a product of being absent. Absenteeism of three days a week or more was more likely among service staff when compared to other groups. Among students and staff who were absent three days a week or more in the past month, HIV prevalence was consistently higher than among those who were absent for two or less days. This suggests that HIV infection is contributing to absenteeism.

Among students, 54% had medical aid and of those, 1,4% were HIV positive in comparison to an HIV prevalence of 2,8% among those without medical aid. Among administrative staff, 82% had medical aid and among these, 3,3% were HIV positive in comparison to those who did not have medical aid, among whom 9,1% were HIV positive. Among service staff, the HIV prevalence was 14,8% among the 43% without medical aid, and 10,2% among those who did have medical aid. Thus, the greater proportion of students and staff who are HIV positive are less likely to have medical aid and more likely to access state services. As illustrated in the qualitative research, such access is more time-consuming than utilising private services.

Analysis of the data to explore the possibility that students were acquiring HIV during the period that they were studying showed that HIV prevalence increased by year of study, although this pattern was not a linear increase. Students completing less than one year of study are however not directly comparable with those who have completed one or more years of study as students drop out of studies over

time with a high proportion dropping out after the first year. Nevertheless, the increase in ever having had sex is consistent with young people initiating their sexual lives, and increases in HIV are consistent with findings that HIV prevalence increases with age¹⁶⁴. Students are not only exposed to HIV within the HEI environment, and the majority have partners who are not from the institution. No conclusion can be drawn as to whether they are at greater or lesser risk if they are HEI students in comparison to not studying at an HEI and it cannot therefore be concluded that the HEI environment specifically reproduces risk to HIV infection. Notwithstanding this point, the report as a whole illustrates many contexts of risk at HEIs and the recommendations further below provide insight into the many steps relevant to reducing risk of HIV acquisition within the HEI environment.

HIV prevalence in regional groupings

Among academic, administrative and service staff, KZN has the highest prevalence by institutional category, followed by EC. EC has the highest prevalence among students, at 6,4%, followed by KZN at 6,1%. The lowest overall prevalence among all groups was found in the WC, ranging from 0,2% for academic staff, to 1,2% for service staff. This distribution is similar to other HIV prevalence studies in the case of KZN and WC, with EC and FS typically falling within the mid-range of prevalence as seen, for example, in the national HSRC survey.¹⁶⁵

HIV prevalence by marital status and parenting status

In all institutional categories, respondents who were unmarried were far more likely to be HIV positive – for example, among unmarried administrative staff HIV prevalence was 5,9% [CI: 4,1%–8,3%] in comparison to 3,2% [CI: 2,1%–4,8%] among those who were married. Among students, administrative and service staff, HIV prevalence was also considerably higher among those who had children than those who did not – for example, among service staff HIV prevalence was 13,5% [CI: 10,9%–16,7%] among those

with one or more children in comparison to 5,2% [CI: 3,2%–8,4%] among those who had no children. This suggests that programmes addressing people with HIV should expand to consider the implications of parenting when living with HIV.

HIV prevalence by circumcision status and reported STI symptoms

Male circumcision is recognised as an effective means for reducing the likelihood of HIV infection among males and this protective effect has been demonstrated in studies where adult males have been circumcised and compared to non-circumcised men over a number of years.¹⁶⁶ In contrast, males at HEIs who were circumcised at age 11 or older were found to have higher HIV prevalence in comparison to men who were not circumcised – 3,8% [CI: 2,6%–5,8%] vs. 1,4% [CI: 0,9%–2,3%].

While STI symptoms of sores or discharge among students and staff were measured subjectively, it was found that both males and females who reported such symptoms had a significantly higher prevalence of HIV which is compatible with other major studies.

HIV prevalence in relation to forced sex

Less than 2% of male students and staff and slightly higher proportions of female students and staff said they experienced sex that was forced by threat or violence in the past year. This was associated with higher HIV prevalence among male students (6,7% vs. 1,9%) and among female students (12,1% vs. 4,6%). Numbers were too small among staff to analyse. While such prevalence might not be directly causal, it does suggest that there is a higher degree of vulnerability to HIV among individuals who experience sex that is coerced by violent means or threats of violence.

Students and staff were also asked if they were often tricked or pressurised into having sex when they didn't want it. Affirmative responses to this question were somewhat low – 5% among students, 1% among academic staff, 3% among administrative staff and 7% among service staff.

HIV prevalence in relation to same-sex practices

One in sixteen male students (6%) in HEIs reported same-sex practices in the past year, as did 2% of female students. Both males and females who reported same-sex practices in the past year had a higher prevalence of HIV than those who did not, but this was not statistically significant. This comparison requires further exploration as those categorised as MSM and WSW included individuals who reported both low risk and high risk same-sex practices including oral sex, anal sex and intimate touching. In addition, WSW practices are recognised as being relatively low risk for HIV transmission¹⁶⁷ in comparison to sex between males where anal sex, for example, is 10 times more likely to result in HIV transmission in comparison to heterosexual vaginal sex.¹⁶⁸ WSW may also have other risk factors including, for example, higher likelihood of heterosexual sex with MSM,¹⁶⁹ and also, potentially, ‘punitive’ or ‘corrective’ rape.¹⁷⁰

HIV prevalence in relation to heterosexual anal sex

Anal sex has up to 10 times the risk of HIV transmission in comparison to heterosexual vaginal sex.¹⁷¹ Heterosexual anal sex has seldom been the focus of HIV prevention campaigns, yet in the present survey one in thirteen male and female students reported having heterosexual anal sex in the past year. Among this group, HIV prevalence was found to be higher in males (3,0% vs. 1, 9%) and among females (8,4% vs. 4,4%) but the difference was only significant for women ($p=0,002$). While the prevalence of this practice is informative – given that there has been little information available to date – further sub-studies may be necessary to understand this issue.

HIV prevalence in relation to older sexual partners

HIV prevalence is unevenly distributed among age groups, and among sexually active people in South Africa it has been noted to increase from moderate levels among teenagers through to a peak in the 25–29 year age group for females and a peak in the 30–34 year age group among males. Prevalence then declines

in older age groups. In 2008 the prevalence for teen females aged 15–19 was 6,7% and for males, 2,5%. This rose to 32,7% for females aged 25–29 and to 25,8% for males aged 30–34. Prevalence then declines to 3,5% for males aged 60 years and older and 1,8% for females in this age range.¹⁷² This age-disparate pattern is also observed in the present study, albeit at lower levels.

Sex with older partners is a risk factor for young people if their sexual partners are in higher prevalence pools as a product of being older. Among the 7% of female students aged 18–24 who reported that their most recent sexual partner was 10 or more years older, 12,8% were HIV positive. In comparison, among those with partners less than 10 years older, the HIV prevalence was 3,1%. Among male students there was a similar prevalence disparity: among the 6% of males with most recent partners 10 or more years older, the HIV prevalence was 3,9% in comparison to 0,8% for those who had partners less than 10 years older.

HIV prevalence and concurrent sexual partners

Having overlapping sexual partners creates multiple pathways for HIV transmission and if this practice is widespread it results in densely clustered sexual networks that provide ready pathways for HIV transmission. New infections produce high viral load in the first three months of infection, and thus HIV can move rapidly where such pathways are present.¹⁷³ Concurrent sexual partnership was measured in the present survey as people who had more than one partner in the past month – 19% of male students and 6% of female students reported that this applied to them. Prevalence levels were not however markedly different in comparison to those with only one partner in the past month. This is probably because of consistent condom use with casual partners. However, more robust approaches to measuring concurrency in surveys have recently been established. These assess exposure to overlapping partnerships over longer periods of time.¹⁷⁴

Condom use at last sex

Condom use at last sex was high among students compared to other groups, at 60%. Condom use at last sex

among 18–25 year olds is somewhat lower at HEIs than was found recently in a national survey, where 87% of 15–24 year olds reported using a condom at last sex.¹⁷⁵ Among staff, levels were lower for males in the 25 years and older age group and for females. Condom use was, however, generally higher in all categories among those who had multiple or concurrent partners.

Condom use is influenced by marital status and other factors related to relationship stability, and it is to be expected that staff would have lower levels of reported condom use at last sex in comparison to students. Consistent condom use among students and younger staff is likely to contribute to maintaining a low rate of new infections.

Voluntary counselling and testing

Having had an HIV test is an indication that an individual is engaging with his or her risk in relation to HIV. While HIV testing may occur as a product of a variety of prompts or motivations – for example, being tested because one is pregnant, or being required to test for life insurance – it is important to note the extent to which both students and staff reported HIV testing. While among students, never testing was highest at 54%, it must be taken into account that only 73% have ever had sex before. Additionally, only 2,3% of those never tested were HIV positive, although in the EC, HIV prevalence among never testers was higher, at 7,5%. Among academic staff and administrative staff, never having had a test applied to around a third of respondents, and HIV prevalence was 1,0% and 4,1% respectively. However, among the 48% of service staff who had never tested, HIV prevalence was 10,7%.

Alcohol and drug abuse

The vast majority of students and staff said that they drank alcohol either occasionally or never. While a minority drank once a week or more, there were overall high rates of being drunk in the past month: 35% for students, 14% for academic staff, 21% for administrative staff and 24% for service staff. This suggests that among students in particular, there is an established pattern of binge drinking and this pattern

also extends to a not insignificant proportion of staff. Excessive alcohol consumption is recognised as a risk factor for sexual risk-taking, but is also related to other risks including, for example, reckless driving or exposure to violence.

Surprisingly, the data in this study showed that students who admitted to being drunk in the last month were substantially and significantly *less* likely to be HIV positive. Even when controlling for race (because significantly more White male and female students than their African counterparts admitted to being drunk in the last month), being drunk in the last month was independently, inversely associated with HIV. Similarly, in a multivariate model of sexually experienced students, alcohol use was inversely associated with HIV status and the reasons for this remain speculative in this analysis.

The question on drug use related to marijuana and harder drugs such as cocaine, amphetamines, LSD and heroin. There was very little use of harder drugs noted. Marijuana was found to have been used in the past month by 9% of students and was particularly high in the WC at 14%. Levels of marijuana use were much lower among staff. While use of injecting drugs such as heroin were overall low – 1% among students, administrative and service staff – there is the potential that heroin use may grow. Sharing of syringes and needles is a significant risk factor for HIV transmission among injecting drug users, and HIV transmission is highly efficient when this occurs. The numbers of respondents admitting to drug use was too small to be able to analyse it as a risk factor for HIV transmission.

HIV prevention knowledge and attitudes to sexual risk

Knowledge was measured through a battery of simple questions and at this stage of the epidemic, correct responses should be ubiquitous. Correct knowledge among 80% or more of respondents was considered to be adequate and this applied to questions related to sexual risk, HIV transmission through casual contact, and antiretroviral drugs. However, questions investigating more in-depth knowledge related to transmission of

HIV through breastfeeding, the availability of drugs for post-exposure prophylaxis in the case of rape, and the legality of sex with partners younger than 16, all attained overall *inadequate* correct responses.

While it was recognised that HIV transmission risk was linked to promiscuity and that having multiple partners was not acceptable, males in general were more likely to have positive attitudes towards one-night-stands and to males having concurrent partners. Attitudes to the latter would need to integrate a raised consciousness about the elevated HIV infection risks of having concurrent partners.

Exposure to HIV and AIDS within community and institutional context

Varying levels of direct exposure to people with HIV or AIDS or people who had died of AIDS were reported. A quarter or more of students and staff reported that in the past year a person they knew had said that they were living with HIV, and this suggests some degree of openness among HIV-positive people about their status. A smaller proportion had experienced the death from AIDS of someone they knew personally, and between 5% and 15% of students and staff had missed classes or work in the past year to attend a funeral of a person who had died of AIDS. HIV and AIDS is thus experienced directly and tangibly by a proportion of students and staff, and it may be expected that such direct experiences are also talked about with friends and family. Indeed, talking to family and friends about HIV and AIDS was seen as having contributed to taking HIV and AIDS more seriously by around a third of students and staff. Knowledge of AIDS statistics was also impactful.

Within the institutional context, around a third more of students and staff reported being exposed to leaflets or booklets about HIV and AIDS or obtaining free condoms. Attending meetings or functions about HIV and AIDS were also noted. A minority were involved in HIV and AIDS clubs or organisations on campus, while around 10% in all institutional categories had been involved in AIDS research in the past year. Exposure to HIV and AIDS through campus radio programmes

and newspapers did not seem to contribute particularly to raising a sense of seriousness and, for example, only 13% of students felt campus radio programmes made them take HIV and AIDS more seriously, while 19% agreed that campus newspapers had done so.

Attitudes to and perceived acceptance of people with HIV and AIDS

Attitudes towards people with HIV and AIDS were explored through two questions related to acceptance and rights of HIV-positive people. Both students and staff exhibited affirming attitudes towards people with HIV and AIDS but there was a distinct contrast between these values and perceptions of acceptance by friends at the institution if it were revealed that they were HIV positive. Only 38% of students, for example, thought they would be supported by friends. This suggests that there is still some way to go at institutions in terms of fostering a climate of openness about HIV status.

Violence, crime and sexual harassment

While the majority of students and staff said they felt safe from physical harm at their institution, there was a fair proportion that did not agree with the statement, ranging from 60% among service staff to 71% among academic staff. Around half of academic, administrative and service staff also agreed with the statement “violent crime where people are physically injured is a serious problem at this institution”, as did 18% of students. This illustrates that institutions are not safe environments for students or staff.

There was also not strong agreement with the statement “female students are safe from sexual harassment at this institution”, with only around two fifths of students and staff agreeing – a finding that illustrates that sexism continues to be pervasive.

Perceptions of management and student leadership in relation to HIV and AIDS

While the view that the management of the institution were taking HIV and AIDS seriously was held by the majority of students and staff, the range of

agreement was not particularly strong: 52% for students, 63% for academic staff, 60% for administrative staff and 54% for service staff. Student leaders fared worse, with only 53% of academic staff and 38% of

students agreeing that they took HIV and AIDS seriously. The majority of students and staff also felt that there should be more emphasis on HIV and AIDS in academic classes.

SECTION SIX

Recommendations

GENERAL RECOMMENDATIONS

The recommendations below are not all relevant in equal measure on all campuses and in some instances HEIs have already instituted the measures referred to; although not necessarily on all institutions where there are multiple campuses.

The HEAIDS programme should consider the list of promising interventions identified above, with a view to supporting roll-out of some of these programmes and activities at a national level.

A diversified approach

This study has shown that the HIV epidemic is heterogeneous between and within HEIs. The response therefore needs to be customised and targeted towards specific needs rather than a generic, ‘one size fits all’ approach.

Each institution should be required in the short-term to present an HIV and AIDS response plan that takes into account the specific drivers of infection at the institution and its sub-campus. The need to launch an accelerated and intensified plan must be recognised.

All high HIV prevalence campus communities must be mobilised around the urgency of the need for this. This will require a review of all institutional facilities and responses that need to be drawn in. The focus

of such response should integrate HIV prevention as well as care for people living with HIV. The latter approach needs to consider a holistic well-being strategy that includes counselling and treatment, as well as taking into account family needs – for example in relation to the high proportion of people living with HIV who are parents.

Addressing heterogeneity of HIV prevalence at HEIs

The finding of large differences in HIV prevalence in relation to race needs to be taken into account. There is the danger that HIV will increasingly be seen as only an ‘African disease’ with a resultant increase in discrimination and stigma. There is also the potential for ‘non-Africans’ to reduce or limit their HIV prevention practices in the belief that their risk of contracting HIV is negligible. It must be stressed that the sexual practices that give rise to the HIV epidemic remain consistent, irrespective of race, and that strategies that focus on the concept of limiting all new infections among HEI communities, irrespective of demographic characteristics or institutional categories, should remain a central focus.

Prevention strategies

HIV prevention programmes are not directed towards dominant modes of HIV transmission on campuses. HIV prevention needs to depart from simple awareness

campaigns, condom provision and VCT provision. Furthermore, it must be noted that if prevention methods are to work they need to be optimised for prevention purposes in a way that is stratified.

- **Service and administrative staff:** Given that prevalence is higher among staff than students, it is notable that most HIV and AIDS programmes have been directed towards students to the near exclusion of staff. HEIs need to do more for staff, particularly administrative and service staff who have the highest HIV prevalence and are also most affected by HIV and AIDS at home. There is a need to directly address this sector of institutional populations more systematically. HIV prevention education must be part of staff induction procedures, including those who are contractually employed.
- **Condom availability and promotion:** Condom availability must be the responsibility of a particular person or agency that monitors and manages supply. Condoms must be consistently available in residences and public places where they can be readily accessed. Availability of condoms at social events and venues (eg. alcohol venues, clubs, and ‘bashes’) should also be ensured. Campus shops should be encouraged to stock condoms, including the subsidised cost brands – Lovers Plus and Trust – which are marketed by the Society for Family Health/PSI.
- **VCT:** While VCT services must be much more strongly linked to other health and support services, especially in cases where VCT is externally provided, this intervention has often been seen as a cornerstone to addressing HIV and AIDS. It is well established in the literature that going through VCT has little influence on HIV prevention among individuals who test negative. VCT should therefore be seen as a supplementary strategy. The strategy is also possibly of very little relevance at low prevalence institutions and it represents unnecessary cost and effort in the context of a need for broader emphases in response to the disease. At high prevalence institutions however, promotion of VCT should be aimed at ‘everyone knowing their status’ and campus management, staff union and student leadership should lead by public example. Added to the current emphasis on knowing your

status should be the message of ‘knowing your partners’ status’ to build the practice of wanting to know a partner’s HIV status before commencing a sexual relationship or deciding on prevention strategies in a relationship. VCT services should continue to be promoted in the institutional context but moves should be made towards an ‘opt-out’ approach where HIV testing becomes routine for those using clinic services. At campuses where VCT is not offered, unavailable to staff, or where there are long delays for appointments, services should be scaled up and additional counselors deployed. A holistic approach should be followed for those students and staff who test positive, ensuring that there are links to diverse support systems including relationship and family support, as well as links to treatment where this is relevant.

- **PEP following rape:** Knowledge of post-exposure prophylaxis after rape and mother-to-child transmission of HIV should be promoted, as these are the two areas where there is unsatisfactory knowledge. Additionally, given that many students and staff are likely to have children, a clear understanding of prevention of mother-to-child transmission (PMTCT) and availability of services should be promoted. Violence and sexual harassment were also noted to be common at HEIs, and the provision of PEP on campuses in the case of rape should be integrated into campus health services where it is not currently available.
- **Sexual and reproductive health (SRH):** Education about and treatment of STIs should be regarded as a priority given the high levels of self-reported symptoms of STI. Clinic staff members need to be trained in syndromic STI treatment including improving their interpersonal skills. HEIs must ensure that STI services are provided in such a way as to encourage particularly young, inexperienced students to seek treatment – especially since the presence of STIs is a significant co-factor in the transmission of the HIV. Also SRH service providers who dispense emergency contraception should counsel their clients about the HIV-infection risk of unprotected sex and should link provision of such services to counselling and HIV testing, and promote the dual protective properties of condoms.

- **Peer education:** Peer-education programmes for members of staff should be instituted at HEIs that do not have them. Student peer education should be systematised and institutional support should be provided when peer education is externally funded and managed. This requires selection, training and support for peer-educators working under a coordinator, and greater linkages to institutional programmes and strategies. Given that many institutions have diverse student enrolments, peer educators should explore creative ways of reaching different segments of the campus community with HIV and AIDS awareness messages. It is noted that the work of DramAidE on many campuses has made important contributions to mobilising HIV and AIDS-related support and peer-level dialogue.
- **Addressing intergenerational sex:** It is important to promote understanding of the higher risk of having older partners among younger students and staff, and in particular, addressing the pattern of predation by older males who are not part of the campus community.
- **Concurrent sexual partners:** Contemporary epidemiological and prevention research has highlighted the importance of understanding how sexual networks occur and how densely they are clustered. The more people in a given population who have more than one partner that is concurrent or overlapping, the more densely clustered the sexual network will be. Such dense clustering has a significant impact on the number of pathways along which HIV can be transmitted, and this is further influenced when new infections occur as a product of the increased likelihood of HIV transmission in early infection. Avoiding concurrent or overlapping sexual partners should be given much closer attention in campus campaigns. The differences between male and female students with respect to norms and expectations around fidelity in relationships and casual sex are notable. These issues should be addressed through debates and other attempts to manage tensions between genders with respect to what is expected in relationships.
- **Staff and students:** Prevention strategies must be developed differentially for student and staff populations. Human resources departments must be called on to support development of staff programmes, especially considering that service staff are the most affected by HIV and AIDS and have largely been overlooked in campus prevention, care and support programmes,
- **Positive prevention:** The practice of HIV-positive people being involved in active prevention activities must be incorporated into prevention thinking, as there is almost no evidence of this on campuses. Prevention of HIV transmission should be emphasised among HIV-positive students and staff in support groups and other care settings, including among couples where both partners are HIV positive.
- **Focusing education on higher-risk groups:** Special efforts must be made to ensure that female students, older students and male members of the campus community are reached in HIV prevention efforts. Not only are they likely to be more vulnerable to HIV infection, but they are also more likely to infect others. It is important to promote HIV prevention in same-sex relationships. MSM have higher prevalence compared to heterosexuals, while the HIV transmission risks for WSW are seldom addressed. They must be recognised as a community with special HIV prevention needs. There are gay and lesbian student associations on many campuses and they must be engaged in planning HIV prevention programmes for gay and lesbian students. It must also be recognised that drug addicts on campus engage in high-risk sex practices associated with their addiction. Addressing this needs to be part of a drive to provide support to drug users on campus. Furthermore, it is clear that MSM and WSW are subject to discrimination and this works against addressing their SRH and HIV prevention needs. HEI management and other structures must be proactive to ensure that the rights of such groups are protected. On all campuses there are MSM and WSW and on a number of campuses there are dedicated organisations that address gay and lesbian interests. However, it is also clear that MSM and WSW are subject to discrimination. HEI management and other structures must ensure that the rights of such groups are protected.

- **Students and staff with disabilities:** The qualitative research has illustrated that disabled students and staff are at a particular disadvantage in relation to HIV in that they may be more vulnerable to HIV as a product of their disabilities – both in forming of relationships and in relation to understanding of prevention practices. There has been insufficient focus on people with disabilities in relation to HIV nationally, and HEIs are well positioned to develop leading practices in this sphere of response. This is of particular relevance to those institutions that have positioned themselves as sensitive to the needs of disabled people.
- **Low prevalence institutions:** At low prevalence institutions, adopting the goal of ‘no new infections’ would be relevant as a focal strategy to sustain motivation around HIV prevention, which could be eroded by perceptions of low HIV-risk.

Reducing contextual risks

It is important to develop strategies on each campus to reduce susceptibility to risk at a systemic or environmental level. With information about contextual risks in this report and more specifically in institutional reports, there is opportunity to adopt a much more focused and concerted approach to addressing contextual risks and reducing risky behaviour. This would need to include but not necessarily be limited to the following:

- **Addressing vulnerability to transactional sex:** Funders and HEIs should provide opportunities for students to supplement income through work on campus in order to reduce the temptations to engage in risky behaviour in order to subsist.
- **Addressing vulnerability of women:** It is notable that female members of the campus communities do not feel secure on campus, feel vulnerable to sexual harassment and have the perception that making a complaint will have little effect. Efforts to address these issues must be intensified through emphasising gender rights and mutual respect, and invigorating disciplinary procedures. It should be a matter of priority to invigorate campus disciplinary procedures. Examples of other campuses

which conduct well-regulated disciplinary procedures and publicise the outcomes of disciplinary hearings might be studied and emulated.

- **Bridging programmes:** New and young students, particularly females, need more by way of induction and protection in the first six months at the HEI since they lack the experience to make good and risk-aware decisions in the face of social and peer group pressure. It is important to extend bridging programmes for new students, which typically do not extend beyond the first week of university, noting the challenges that students have in adjusting to life in universities and the risks they face.
- **Residence programmes:** People who manage residences need to be aware of HIV and AIDS and how to counsel residents to avoid sexual risk-taking, as well as how to support HIV-positive residents. When residence staff take an active interest in the personal lives of students, they are more frequently sought after as sympathetic sources of support. The state of residences and student accommodation more generally must be regarded as posing a pressing need for improvement in the interest of a more ordered and regulated social world where students are deliberately and effectively managing their lives.
- **Alcohol abuse:** Drinking behaviour at campus events should be monitored and steps taken to limit excesses. Regulations related to alcohol availability and consumption on campuses should be better enforced. In addition, campus liquor outlets should be more closely monitored by institutions and limited to particular nights and hours. There should be drives to curb high levels of student drinking by promoting non-alcohol oriented forms of recreation, such as is already happening on some campuses. This would ideally be part of student well-being programmes oriented on health lifestyle options and campus environments and activities supportive of the same.

HIV and AIDS care and support

All institutions should strive to become environments which are sensitive to and accommodating of the

needs of HIV-positive people. The following recommendations are made towards this end:

- **ART access:** Across the range of institutions there are difficulties in staff and students not on medical aid accessing ART, involving travelling considerable distances and enduring full-day visits to public health services on a monthly basis that compromise their work and study. All HEIs must adopt measures to ensure that ART is available on or near campuses, and a sector treatment access project should be adopted as a priority by the HEAIDS programme, to support HEIs to achieve this.
- **Support to people with HIV and AIDS:** Given the high percentages of students and staff who have undergone HIV testing, most of them in the last year, there are clearly many people on campus who know their HIV-positive status but do not access or benefit from support services. They need to be reached, especially in light of increasing evidence that effective treatment should start much earlier than previously thought. One of the outcomes is that while some institutions may be focused on prevention, they lag in their support to HIV-positive members of the campus community and there is a strongly felt need to address this. There is need to convene a working group on each campus to consider ways of achieving better support, and this should involve people living with HIV and AIDS.
- **Peer support:** It is important to establish programmes of peer support led by HIV-positive people. Such programmes have proved effective on some campuses (see ‘Promising interventions’ section), such as the Health Promoter programme previously offered by DramAidE on some campuses; an equivalent of which should be reinstated on campuses that no longer participate, especially given its great success in creating positive attitudes to living with HIV at some institutions. Resources should be directed towards the development and support of active and ongoing peer support groups on all campuses. People who test HIV positive should be encouraged to join existing support groups.
- **‘Buddy’ systems:** For those concerned about confidentiality, alternative forms of peer support should be considered, such as pairing ‘buddies’

together or even creating an anonymous moderated internet forum where HIV-positive people can share experiences.

- **Wellness programmes for HIV-positive people:** There is a need for HIV-positive people to begin to receive treatment before they become sick, especially in light of increasing evidence that effective treatment should start much earlier than previously thought. This requires a more pro-active approach involving people discovering their HIV status earlier and recognising the need for treatment before they directly experience advanced stages of HIV and AIDS disease. Concise information about how to manage one’s illness, nutrition, lifestyle, and opportunistic infections should be provided. Comprehensive information regarding antiretroviral therapy (ART) should be supplied. Institutional medical aid schemes should also be responsive to supporting people living with HIV and these should be reviewed if necessary. Some institutions have instituted nutritional support programmes for HIV-positive students and staff, and it is also important to consider family and parenting needs. The need for such services should be evaluated on all campuses and necessary steps taken to address needs where these exist, given evidence that this is a problem area.

Institutional leadership

Campus leaders and managers need to take heed of the perception on the part of a significant proportion of students and staff, that they do not take HIV and AIDS seriously. This is a reflection of a lack of consistent, well-supported and visible HIV and AIDS response programmes, and a lack of vocal champions, including HIV-positive campus leadership.

Below are recommendations for improving campus leadership of HIV and AIDS responses.

- **Institutional HIV and AIDS committees:** In each HEI there should be an established and functioning decision-making HIV and AIDS steering committee or task team, and this committee should have influence and representation on each campus with

clear lines of responsibility. HIV and AIDS committees should manage their responses to HIV and AIDS through annual work plans with clear targets and commitments, so that there can be greater accountability to performance.

The fact that HEIs have largely failed to address HIV infection and social impacts in their most affected sub-populations is stark evidence that they have worked without access to critical information needed for dealing with HIV and AIDS. Committees at all institutions should convene processes for engaging with the findings of this report and the institution specific reports and reorienting their programmes of action accordingly.

- **Human resource departments:** Human resource departments which usually would be responsible for developing employee assistance programmes have largely been disengaged from matters related to HIV and AIDS, which have generally been the business of HIV and AIDS units and health services. It is necessary that human resource departments become directly engaged in HIV and AIDS response programmes, especially considering that on all campuses highest HIV prevalence is found in service staff.
- **Staff organisations:** Trade unions and staff bodies have played only a minor role in HIV and AIDS responses. These bodies should be actively involved in addressing HIV and AIDS, including identifying priority areas and strategies related to the level of the epidemic at the HEI. This should include engaging with human resource departments and management accountabilities in relation to HIV and AIDS response, and leadership ‘by example’ should be seen as an integral component of response.
- **Student leadership:** The importance of shaping attitudes and practices of future decision makers must be recognised and given the poor perceptions of student leadership involvement in HIV and AIDS, a sector wide initiative to promote student leadership is recommended. In particular, student leaders need to ‘lead by example’ in addressing HIV and AIDS, noting that the present qualitative

study has illustrated that in some instances student leaders may exploit their positions in ways that are contradictory in relation to HIV prevention.

- **University management.** Management should play a more prominent role than has been the case at some institutions and systems of accountability to addressing the epidemic should be considered including clear, measurable goals, the achievements of which should be assessed annually.
- **A model for future leaders:** A final but important reason for providing optimal HIV prevention and treatment services at HEIs and for students in particular, is because it may help shape positive attitudes and practices towards managing HIV. Many students become future leaders in all spheres of life and it is reasonable to postulate that if their learning institutions have an open and caring approach to HIV and those living with the disease, then they in turn may internalise these values and promote a similar approach in the future.

Research and learning environments

- **Mobilising research:** There is little evidence, with one or two notable exceptions, that HEIs have used the opportunity of being research institutions to conduct strategy-relevant research on HIV and AIDS on their own campuses. A research agenda should be drafted for each institution and staff and research students should be encouraged to conduct policy and strategy-relevant research on HIV and AIDS issues.
- **Integrating HIV and AIDS into subject curricula:** Strong perceptions that HIV and AIDS have not been sufficiently incorporated into the academic curriculum suggest that there should be a review of what is being done and a project launched for addressing this need. Promising initiatives at other universities, especially the University of Pretoria and University of Cape Town, as well as a research project at Rhodes University focusing on HIV and AIDS in the curriculum, provide useful resources in developing this facet of HIV and AIDS response within HEIs.

Notes

- 1 “Contact” teaching refers to the situation where academic instructors hold face-to-face classes with students. It contrasts to ‘distance’ teaching where instruction is carried out via email, fax and post rather than via face-to-face interactions.
- 2 World Health Organization, UNAIDS. (2001). Guidelines for Using HIV Testing Technologies in Surveillance: Selection, Evaluation, and Implementation. Geneva: WHO/UNAIDS.
- 3 Shisana, O., Rehle, T., Simbayi, L.C., Zuma, K., Jooste, S., Pillay-van Wyk, V., Mbelle, N., Van Zyl, J., Parker, W., Zungu, N.P., Pezi, S., et al. (2009). South African national HIV prevalence, incidence, behaviour and communication survey 2008: A turning tide among teenagers?. Cape Town: HSRC Press.
- 4 Shisana et al., 2009.
- 5 A hyperendemic epidemic is defined by UNAIDS as a situation where 15% or more ‘adults’ aged 15 years and older are living with HIV. UNAIDS. (2008). Report on the global AIDS epidemic. Geneva: UNAIDS. p100.
- 6 Rausand, M., & Høyland, A. (2004). System Reliability Theory – Models and statistical methods. Second Edition. New York: Wiley. pp 1–41.
- 7 Stremlau & Nkosi, 2001 . “So Much Learning but So Little Wisdom”, Sunday Times, 28 January. Cited in Uys, T., & Ichharam, M. (2006). Towards an Intervention: A qualitative study of university students’ perceptions of HIV/AIDS. Paper at RAU Sociology Seminar Series. Johannesburg: RAU.
- 8 Barnes, T. (2000). *The Impact of HIV/AIDS on the University of the Western Cape. A Report for the Association for the Development of Education in Africa*. ADEA.
- 9 Shisana, O., Rehle, T., Simbayi, L.C., Parker, W., Zuma, K., Bhana, A., Connolly, C., Jooste, S., & Pillay, V. (2005). *Nelson Mandela/HSRC study of HIV/AIDS: South African national HIV prevalence, HIV incidence, behaviour and communications*. Cape Town: HSRC Press.
- 10 Pettifor, A.E., Rees, H.V., Steffenson, A., Hlongwa-Madikizela, L., MacPhail, C., Vermaak, K., & Kleinschmidt, I. (2004). *HIV and sexual behaviour among young South Africans: a national survey of 15–24 year olds*. Johannesburg: Reproductive Health Research Unit.
- 11 Chetty, D. (2000). *Institutionalising the Response to HIV/AIDS in the South African University Sector: A SAUVCA Analysis*. Pretoria: SAUVCA.
- 12 Uys, T., Martin, L., Ichharam, M., Alexander, P., Els, R., & Eiselen, R. (2002). *HIV/AIDS and students at RAU. Final report*. Johannesburg: Rand Afrikaans University.
- 13 Colvin, M., Connolly, C., & Madurai, L. (2007). The epidemiology of HIV in South African Workplaces. *AIDS* 21(S3), S13–19.
- 14 Shisana, O., Peltzer, K., Zungu-Dirwayi, N., & Louw, M.A. (2005). *The health of our educators: A focus on HIV/AIDS in South African public schools, 2004/5 Study*. Cape Town: HSRC Press.
- 15 Centre for AIDS Development, Research and Evaluation (2007). *KZN HIV/AIDS business Seroprevalence survey incorporating KZN HIV/AIDS impact study, 2007*. CADRE: Durban.
- 16 Colvin et al., 2007.
- 17 Shisana, O., Peltzer, K., Zungu-Dirwayi, N., & Louw, M.A. (2005). *The health of our educators: A focus on HIV/AIDS in South African public schools, 2004/5 Study*. Cape Town: HSRC Press.
- 18 Centre for AIDS Development, Research and Evaluation, 2007.
- 19 Colvin et al., 2007.
- 20 Centre for AIDS Development, Research and Evaluation, 2007.
- 21 Levine, S., & Ross, F.C. (2002). Perceptions of and Attitudes to HIV/AIDS among Young Adults in Cape Town. *Social Dynamics*, 28(1), 89–108.
- 22 Grundlingh & Pillay, 2003 .
- 23 Mulwo, A.K., Tomaselli, K.G., & Dalrymple, L. (2009). Condom brands, perceptions of condom efficacy, and the implications for HIV prevention among students at three universities in KwaZulu-Natal Province, South Africa. *African Journal of AIDS Research*, 8(3), 311–320.
- 24 Association of Commonwealth Universities. (1999). *The social demographic and development impact of HIV/AIDS: Commonwealth Universities Report*. Report on the proceedings

- of a Symposium hosted by The Association of Commonwealth Universities at the University of Natal. London: ACU.
- 25 Chetty, 2000, p 13.
 - 26 Botswana, Cape Town, Copperbelt, Eduardo Mondlane, Kenyatta, Malawi, Namibia, Natal, Zambia, and Zimbabwe. Association of Commonwealth Universities. (2001). *Engagement as a Core Value for the University: A Consultation Document*. London: ACU. Retrieved from <http://www.acu.ac.uk>.
 - 27 This programme officially ends in March 2010.
 - 28 Chetty, 2000, p 23.
 - 29 van Wyk, B., & Pieterse, J. (2006). *Institutional responses to HIV/AIDS from institutions of higher education in the Southern African Development Community*. Report commissioned by SARUA. Pretoria: University of Pretoria, Centre for the study of AIDS. Page 4.
 - 30 Inkoom, D. (2009). *African Universities Responding to HIV/AIDS: Sida Evaluation*. Stockholm: Sida. Retrieved from <http://www.sida.se/publications>.
 - 31 HESA, 2009 .
 - 32 Inkoom, 2009.
 - 33 Cairns, M., Dickinson, D., & Orr, W. (2006). Wits University's response to HIV/AIDS: Flagship programme or 'tramp steamer'? *African Journal of AIDS Research*, 5(2), 159–166.
 - 34 Inkoom, 2009, p 6.
 - 35 Association of African Universities. (2007). *HIV & AIDS and higher education in Africa: A review of best practice models and trends*. Accra: AAU; Chetty, 2000; Higher Education HIV/AIDS Programme. (2004). *HIV and AIDS audit: interventions in South African higher education 2003–2004*. Retrieved from <http://www.heads.ac.za>; Higher Education HIV/AIDS Programme. (2006). *HEAIDS strategic framework: 2006–2009 and beyond*. Retrieved from <http://www.heads.ac.za>; Kelly, M. (2001). *Challenging the challenger. Understanding and expanding the response of universities in Africa to HIV/AIDS*. Washington: Association for the Development of Education in Africa; Kelly, M. (2003). The significance of HIV/AIDS for Universities in Africa. *Journal of Higher Education in Africa*, (1)1, 1–23.
 - 36 Inkoom, 2009, p 8.
 - 37 Association of African Universities. (2004). *An HIV/AIDS toolkit for higher education institutions in Africa*. Accra: AAU. Pp 10–11.
 - 38 AAU, 2004, pp 10–11.
 - 39 Higher Education HIV/AIDS Programme 2006, pp 4–5.
 - 40 Cairns et al., 2006; Chetty, D., & Michel, B. (2005). *Turning the tide: A strategic response to HIV and AIDS in South African Higher Education. HEAIDS Programme Report: 2002–2004*. Pretoria: SAUVCA; Saint, W., Otaala, B., Chetty, D., & Ojuando, M. (2004). *Crafting institutional responses to HIV/AIDS: Guidelines and resources for tertiary institutions in Sub-Saharan Africa*. Washington: World Bank; University of Cape Town. (2006). *UCT HIV/AIDS Colloquium: Summary report*. Cape Town: UCT. UCT , 2007.
 - 41 Inkoom, 2009, p 14.
 - 42 Booysen, F., Bachmann, M., & Pelsner, A. (2005). *The impact of the HIV/AIDS epidemic on the University of the Free State: Magnitude, implications and management*. Bloemfontein: University of the Free State, Centre for Health Systems Research & Development ; Cairns et al., 2006; Higher Education HIV/AIDS Programme. (2005). *South African case studies in VCT services in higher education institutions 2002–2004*. Pretoria: HESA/HEAIDS.
 - 43 Chetty & Michel, 2005.
 - 44 Chetty & Michel, 2005, p 34.
 - 45 For instance: UCT, Stellenbosch, UWC, UKZN, NMMU, UP, UOFS, Wits – see university websites.
 - 46 Saint et al., 2004; University of Natal (2000). *Managing the Impact of HIV/AIDS in Universities: A Case Study of an African University. A study undertaken for the Commonwealth Higher Education Management Service, Association of Commonwealth Universities*. Durban: University of Natal.
 - 47 Saint et al., 2004, p 13.
 - 48 Chetty & Michel, 2005; Higher Education HIV/AIDS Programme, 2004; Katjavivi, P., & Otaala, B. (2003). *African higher education institutions responding to the HIV/AIDS pandemic*. Paper presented at the AAU Conference of Rectors, Vice Chancellors and Presidents of African Universities, Mauritius, March 17–21; Kelly, 2001, 2003; UCT, 2006.
 - 49 UCT 2006, p 32.
 - 50 Booysen et al., 2005; Higher Education HIV/AIDS Programme, 2005; UCT, 2006.
 - 51 Chetty & Michel, 2005; Lesko, N. (2007). University teaching and social cohesion in the age of AIDS: A South African case study. *Prospects*, 37(3), 333–344.
 - 52 Lesko, 2007.
 - 53 Booysen et al., 2005; Chetty & Michel, 2005; Durden, E. (2008). *DramAidE Health Promoter Project in higher education institutions: Evaluation*. Johannesburg: CADRE; Lesko, 2008; UCT, 2006; University of Fort Hare. (2009). *From reflection to action: obstacles and successes in integrating HIV/AIDS into University Curricula*. Symposium, 15–16 May, East London: UFH; University of Pretoria. (2007). *Imagined Futures II: Universities as incubators of change. Conference report*. University of Pretoria, Centre for the Study of AIDS, 26–27 September.
 - 54 Saint et al., 2004, p 11; van Wyk & Pieterse, 2006.
 - 55 Jacobs, J., & Bosman, V. (2004). *HIV and AIDS in the curriculum: a critical intervention point*. International AIDS Conference. Jul 11–16, Abstract no. E11906; Saint et al., 2004.
 - 56 Chetty & Michel, 2005.
 - 57 Chetty & Michel, 2005; Saint et al., 2004; UCT, 2007; UP, 2007.
 - 58 Saint et al., 2004, p 13.
 - 59 Durden, 2008.
 - 60 Durden, 2008.
 - 61 See DramAidE, <http://www.dramaide.co.za>.
 - 62 Durden, 2008, pp 6–7.
 - 63 Chetty & Michel, 2005.
 - 64 Chetty & Michel, 2005, p 38; Saint et al., 2004.
 - 65 Chetty & Michel, 2005, p 38.
 - 66 Chetty & Michel, 2005, p 49.

- 67 Saint et al., 2004, p 10.
- 68 Booysen et al., 2005; Chetty & Michel, 2005; UCT 2006.
- 69 UCT, 2006, p 32.
- 70 Chetty & Michel, 2005; Durden, 2008; Saint et al., 2004, p 11; UCT 2006, 2007; UP, 2007.
- 71 Booysen et al., 2005; Chetty & Michel, 2005; Jacobs & Bosman, 2004; Saint et al., 2004, p 11; Griesel, H. (Ed) (2004). *Curriculum Responsiveness: Case studies in Higher Education*. Pretoria: SAUVCA; UCT, 2006, 2007 ; UP, 2007; van Wyk & Pieterse, 2006.
- 72 Higher Education HIV/AIDS Programme, 2004, p 28.
- 73 AAU, 2004, p 36.
- 74 UCT, 2006; UFH, 2009.
- 75 Rau, A. (2009). *Mapping the response to HIV/AIDS at Rhodes University*. Grahamstown: Rhodes/HEAIDS; Griesel, 2004; UCT, 2006.
- 76 Rau, 2009; UCT, 2006, p 30.
- 77 Rau, 2009; UCT, 2006.
- 78 Crewe, M., & Maritz, J. (2006). *Imagined Futures. How to strengthen institutions of higher education in the South?*. Conference paper presented in Oslo, Norway, 16–17 November; Rau, 2009; UCT, 2006.
- 79 Cairns et al., 2006; Chetty & Michel, 2005; Griesel, 2004; UCT, 2006, 2007 ; UFH, 2009; UP, 2007.
- 80 Rau, 2009.
- 81 Rau, 2009; Griesel, 2004; UCT, 2006.
- 82 Rau, 2009; UCT, 2006.
- 83 Chetty & Michel, 2005, p 51.
- 84 UCT, 2006, p 15.
- 85 Van Wyk & Pieterse, 2006.
- 86 Inkoom, 2009.
- 87 UCT, 2006; UP, 2007; UFH, 2009.
- 88 Chetty & Michel, 2005, p 43.
- 89 Chetty & Michel, 2005; Durden, 2008; Lesko, 2007, p342; Saint et al., 2004; van Wyk & Pieterse, 2006.
- 90 Chetty & Michel, 2005.
- 91 Inkoom, 2009, p 25.
- 92 Higher Education HIV/AIDS Programme, 2005, p 35.
- 93 Higher Education HIV/AIDS Programme, 2005, p 35.
- 94 Chetty & Michel, 2005, p 39.
- 95 Phaswana-Mafuya, N. (2005). HIV/AIDS situational analysis among tertiary institutions in the Eastern Cape. *South African Journal of Higher Education*, 19(6): 1141–1159.
- 96 Chetty, 2000, p 23.
- 97 Booysen et al., 2005; Chetty, 2000; UCT, 2007; UP, 2007.
- 98 Booysen et al., 2005
- 99 UCT, 2007
- 100 Booysen et al., 2005; Cairns et al., 2006.
- 101 Chetty & Michel, 2005, p 43.
- 102 Bennett, J. (2002). *Sexual Violence/Sexual Harassment: A Handbook of Resources*. Cape Town: Africa Gender Institute, UCT; Saint et al., 2004.
- 103 Chetty & Michel, 2005, p 39.
- 104 Higher Education HIV/AIDS Programme, 2005.
- 105 Higher Education HIV/AIDS Programme, 2005, p 40.
- 106 Durden, 2008, p 7; Higher Education HIV/AIDS Programme, 2005, p 38.
- 107 Chetty & Michel, 2005; UCT, 2006.
- 108 Higher Education HIV/AIDS Programme, 2005.
- 109 Chetty & Michel, 2005, p 43.
- 110 Saint et al., 2004, p 13.
- 111 For instance, Bennett, 2002.
- 112 UCT, 2007.
- 113 Wilken, E.C., & Badenhorst, J.W. (2003). A comparative analysis of sexual harassment policies at selected higher education institutions in South Africa. *South African Journal of Higher Education*, 17(2): 197–205.
- 114 WHO, UNAIDS, 2001.
- 115 Cargan, L. (2007). *Doing Social Research*. Maryland: Rowman & Littlefield.
- 116 Bryman, A. (1988). *Quality and quantity in social research*. London: Routledge.
- 117 Note that participation reflected in this table provides an indication of participants counted at the outset, as well as questionnaires and DBS that were sent on for scanning and laboratory testing. These totals differ from the totals of the final dataset as a product of data cleaning and resultant attrition.
- 118 Shisana et al., 2009.
- 119 Shisana et al., 2005.
- 120 Morris, M., & Kretschmar, M. (1997). Concurrent partnerships and the spread of HIV. *AIDS*, 997(11), 651–658.
- 121 Pilcher, C.D., Tien, H.C., Eron, J.J., Vernazza, P.L., Leu, S., Stewart, P.W., Goh, L., & Cohen, M. (2004). Brief but efficient: Acute HIV infection and the sexual transmission of HIV. *Journal of Infectious Diseases*, 189, 1785–1792.
- 122 Halperin, D., & Epstein, H. (2007). Why is HIV prevalence so severe in Southern Africa? The role of multiple concurrent partnerships and lack of male circumcision: Implications for AIDS prevention. *Southern African Journal of HIV Medicine*, March, 19–27; Pilcher et al., 2004.
- 123 Hunter, M. (2002). The materiality of everyday sex: Thinking beyond ‘prostitution.’ *African Studies*, 61(1), 99–120.
- 124 Katz, I., & Low-Beer, D. (2008). Why has HIV stabilized in South Africa, yet not declined further? Age and sexual behavior patterns among youth. *Sexually Transmitted Diseases*, 35(10), 837–842.
- 125 Pettifor et al., 2004; Hunter, 2002; Leclerc-Madlala, S. (2004). Transactional sex and the pursuit of modernity. *Social Dynamics*, 29(2), 1–21.
- 126 Shisana et al., 2005.
- 127 Mercer, C.H., Copas, A.J., Sonnenberg, P., Johnson, A.M., McManus, S., Erens, B., & Cassell, J.A. (2009). Who has sex with

- whom? Characteristics of heterosexual partnerships reported in a national probability survey and implications for STI risk. *International Journal of Epidemiology*, 38:206-14.
- 128 Heeren, G.A., Jemmott, J.B., Mandeya, A.L., & Tyler, J.C. (2009). Sub-Saharan African university students' beliefs about condoms, condom-use intention, and subsequent condom use: a prospective study. *AIDS and Behavior*, 13, 268–276.
 - 129 Heeren, G.A., Jemmott, J.B., Mandeya, A.L., & Tyler, J.C. (2007). Theory based predictors of condom use among university students in the United States and South Africa. *AIDS Education and Prevention*, 19(1), 1–12.
 - 130 Mulwo et al., 2009.
 - 131 Kalichman, S. C., Simbayi, L. C., Vermaakk, R., Jooste, S., & Cain, D. (2008). HIV/AIDS risks among men and women who drink at informal alcohol serving establishments (Shebeens) in Cape Town, South Africa. *Prevention Science*, 9, 55–62; Fisher, J., Bang, H., & Kapiga, S.H. (2007). The Association Between HIV Infection and Alcohol Use: A Systematic Review and Meta-Analysis of African Studies. *Sexually Transmitted Diseases*, 34(1), 856–863.
 - 132 Fisher et al., 2007.
 - 133 Fisher et al., 2007.
 - 134 Korenromp, E.L., Bakker, R., Vlas, S.J., Gray, R.H., Wawer, M.J., Serwadda, D., Sewankambo, N.K., Habbema, J.D. (2002). HIV dynamics and behaviour change as determinants of the impact of sexually transmitted disease treatment on HIV transmission in the context of the Rakai trial. *AIDS*, 16(16), 2209–2218; Sahasrabuddhe, V.V., & Vermund, S.H. (2007). The future of HIV prevention: control of sexually transmitted infections and circumcision interventions. *Infectious Disease Clinics of North America*, 21(1), 241–57.
 - 135 Sahasrabuddhe & Vermund, 2007.
 - 136 Baral, S., Sifakis, F., Cleghorn, F., & Beyrer, C. (2007). Elevated risk for HIV infection among men who have sex with men in low- and middle income countries 2000–2006: A systematic review. *PLoS Medicine*, 4(12), 1901–1911.
 - 137 Sandfort, T.G.M., Nel, J., Rich, E., Reddy, V., & Yi, H. (2008) HIV testing and self-reported HIV status in South African men who have sex with men: results from a community-based survey. *Sexually Transmitted Infections*, 84:425-429.
 - 138 Kohler, H.P., & HELLERINGER, S. (2006). *The structure of sexual networks and the spread of HIV in sub-Saharan Africa: Evidence from Likoma Island, Malawi*. PARC Working Paper Series, WPS 06-02. Population Ageing Research Center, University of Pennsylvania.
 - 139 This view was strongly asserted in several interviews with representatives from student organisations serving gays and lesbians.
 - 140 Loans – for students at universities, universities of technology, and further training and education institutes – range from R2 000–R30 000, of which 40% can be converted into bursaries depending on student performance. “In 2007 the Scheme made 153,272 awards of an average of R11,483 each to 125,899 students”. (National Student Financial Aid Scheme. (2008). *Annual Report: 2008*. Cape Town: NSFAS. Page 3)
 - 141 Shisana et al., 2009.
 - 142 Shisana, O., Peltzer, K., Zungu-Dirwayi, N., & Louw, M.A. (2005). *The health of our educators: A focus on HIV/AIDS in South African public schools, 2004/5 Study*. Cape Town: HSRC Press.
 - 143 Shisana, O., Hall, E., Maluleke, K.R., Stoker, D.J., Schwabe, C., Colvin, M., et al. (2002). *The impact of HIV/AIDS on the health sector; National survey of health personnel, ambulatory and hospitalized patients and health facilities*. Cape Town: HSRC Press.
 - 144 Colvin et al., 2007.
 - 145 Department of Health (2008). *The national HIV and syphilis prevalence study: South Africa*. Pretoria: Department of Health.
 - 146 Shisana et al., 2009.
 - 147 Pettifor et al., 2004.
 - 148 Shisana, O., Peltzer, K., Zungu-Dirwayi, N., & Louw, M.A. (2005). *The health of our educators: A focus on HIV/AIDS in South African public schools, 2004/5 Study*. Cape Town: HSRC Press.
 - 149 Department of Health, 2008.
 - 150 Pettifor et al., 2004.
 - 151 Shisana, O., & Simbayi, L. (2002). *Nelson Mandela/ HSRC study of HIV/ AIDS: South African national HIV prevalence, behavioural risks and mass media household survey*. Cape Town: HSRC Press.
 - 152 Shisana, O., Rehle, T., Simbayi, L.C., Parker, W., Zuma, K., Bhana, A., Connolly, C., Jooste, S., & Pillay, V. (2005). *Nelson Mandela/ HSRC study of HIV/AIDS: South African national HIV prevalence, HIV incidence, behaviour and communications*. Cape Town: HSRC Press.
 - 153 Shisana et al., 2009.
 - 154 Colvin et al., 2007.
 - 155 Shisana, O., Peltzer, K., Zungu-Dirwayi, N., & Louw, M.A. (2005). *The health of our educators: A focus on HIV/AIDS in South African public schools, 2004/5 Study*. Cape Town: HSRC Press.
 - 156 Shisana, O., Hall, E., Maluleke, K.R., Stoker, D.J., Schwabe, C., Colvin, M., et al. (2002). *The impact of HIV/AIDS on the health sector; National survey of health personnel, ambulatory and hospitalized patients and health facilities*. Cape Town: HSRC Press.
 - 157 Shisana, O., Peltzer, K., Zungu-Dirwayi, N., & Louw, M.A. (2005). *The health of our educators: A focus on HIV/AIDS in South African public schools, 2004/5 Study*. Cape Town: HSRC Press.
 - 158 Shisana, O., Rehle, T., Simbayi, L.C., Parker, W., Zuma, K., Bhana, A., Connolly, C., Jooste, S., & Pillay, V. (2005). *Nelson Mandela/ HSRC study of HIV/AIDS: South African national HIV prevalence, HIV incidence, behaviour and communications*. Cape Town: HSRC Press.
 - 159 Shisana et al., 2009.
 - 160 Colvin et al., 2007.
 - 161 Shisana, O., Hall, E., Maluleke, K.R., Stoker, D.J., Schwabe, C., Colvin, M., et al. (2002). *The impact of HIV/AIDS on the health sector; National survey of health personnel, ambulatory and hospitalized patients and health facilities*. Cape Town: HSRC Press.
 - 162 Shisana, O., Hall, E., Maluleke, K.R., Stoker, D.J., Schwabe, C., Colvin, M., et al. (2002). *The impact of HIV/AIDS on the health sector; National survey of health personnel, ambulatory and*

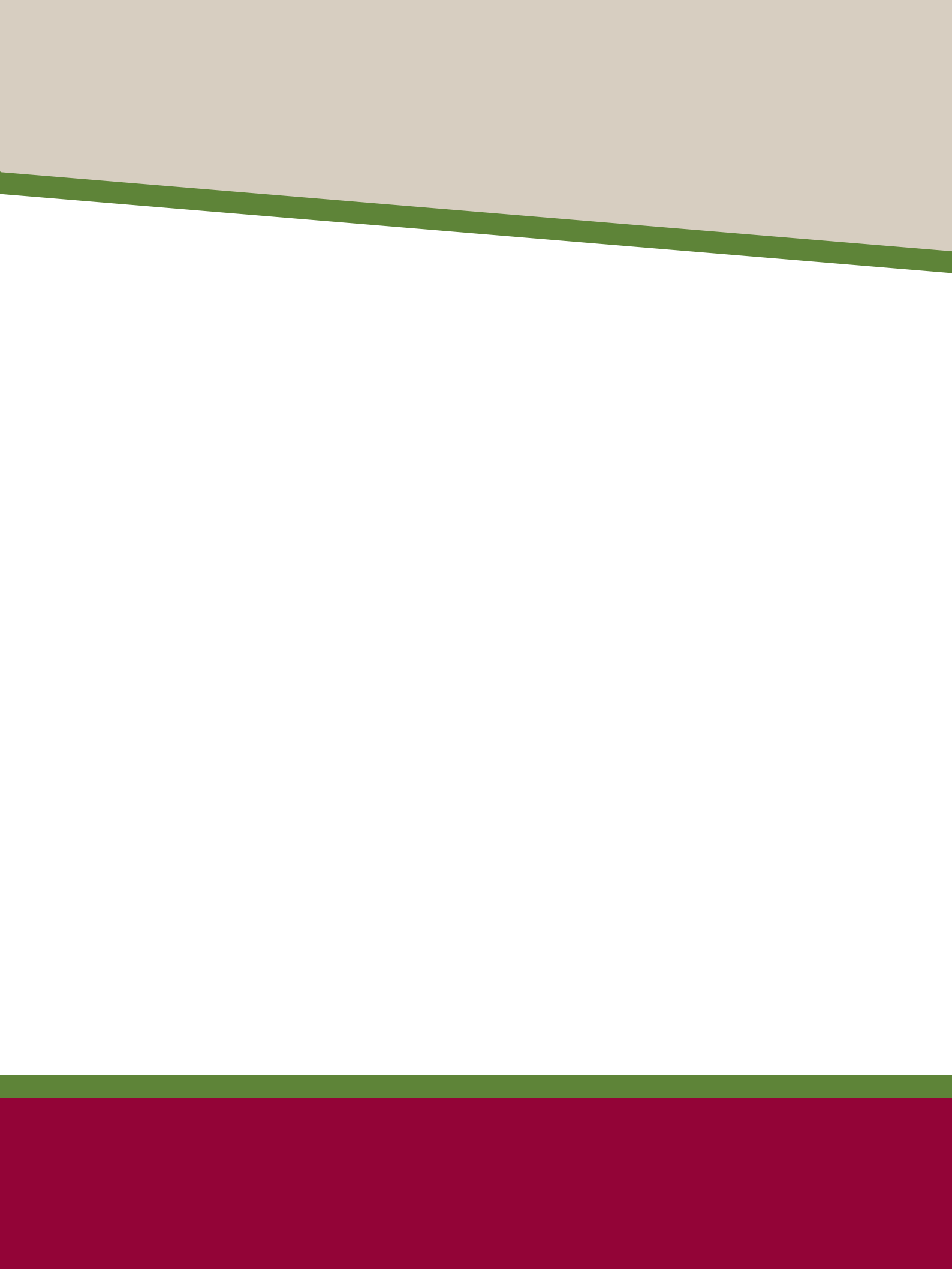
- hospitalized patients and health facilities*. Cape Town: HSRC Press.
- 163 Colvin et al., 2007.
- 164 Shisana et al., 2008; Pettifor et al., 2004.
- 165 Shisana et al., 2009.
- 166 Siegfried, N., Muller, M., Deeks, J.J., & Volmink, J. (2009). *Male circumcision for prevention of heterosexual acquisition of HIV in men*. Cochrane Database of Systematic Reviews, Issue 2.
- 167 Kennedy, M.B., Scarlett, M.I., & Duerr, A.C. (1995). Women who have sex with women: Scientific communication issues. *Journal of the American Medical Women's Association*, 50(3/4), 103–107.
- 168 Cohen, M.S. (2006). Amplified transmission of HIV-1: missing link in the HIV pandemic. *Transactions of the American Clinical and Climatological Association*, 117, 213–225.
- 169 Fethers, K., Marks, C., Mindel, A., & Estcourt, C.S. (2000). Sexually transmitted infections and risk behaviours in women who have sex with women. *Sexually Transmitted Infections*, 76:345–349.
- 170 Gontek, I. (2007). *Sexual violence against lesbian women in South Africa*. MA Thesis in African Studies, Cologne.
- 171 Cohen, 2006.
- 172 Shisana et al., 2009.
- 173 Pilcher et al., 2004; Morris & Kretschmar, 1997.
- 174 UNAIDS Reference Group on Estimates, Modelling, and Projections: Working Group on Measuring Concurrent Sexual Partnerships (2009). HIV: consensus indicators are needed for concurrency. *The Lancet*, 10.1016/S0140-6736.
- 175 Shisana et al., 2009.

References

- Association of African Universities. (2004). *An HIV/AIDS toolkit for higher education institutions in Africa*. Accra: AAU.
- Association of African Universities. (2007). *HIV & AIDS and higher education in Africa: A review of best practice models and trends*. Accra: AAU.
- Association of Commonwealth Universities. (1999). *The social demographic and development impact of HIV/AIDS: Commonwealth Universities Report*. Report on the proceedings of a Symposium hosted by The Association of Commonwealth Universities at the University of Natal. London: ACU.
- Association of Commonwealth Universities. (2001). *Engagement as a Core Value for the University: A Consultation Document*. London: ACU. Retrieved from <http://www.acu.ac.uk>.
- Baral, S., Sifakis, F., Cleghorn, F., & Beyrer, C. (2007). Elevated risk for HIV infection among men who have sex with men in low- and middle income countries 2000–2006: A systematic review. *PLoS Medicine*, 4(12), 1901–1911.
- Barnes, T. (2000). *The Impact of HIV/AIDS on the University of the Western Cape. A Report for the Association for the Development of Education in Africa*. ADEA.
- Bennett, J. (2002). *Sexual Violence/Sexual Harassment: A Handbook of Resources*. Cape Town: Africa Gender Institute, UCT.
- Booyesen, F., Bachmann, M., & Pelsler, A. (2005). *The impact of the HIV/AIDS epidemic on the University of the Free State: Magnitude, implications and management*. Bloemfontein: University of the Free State, Centre for Health Systems Research & Development.
- Bryman, A. (1988). *Quality and quantity in social research*. London: Routledge.
- Cairns, M., Dickinson, D., & Orr, W. (2006). Wits University's response to HIV/AIDS: Flagship programme or 'tramp steamer'? *African Journal of AIDS Research*, 5(2), 159–166.
- Cargan, L. (2007). *Doing Social Research*. Maryland: Rowman & Littlefield.
- Centre for AIDS Development, Research and Evaluation (2007). *KZN HIV/AIDS business Seroprevalence survey incorporating KZN HIV/AIDS impact study, 2007*. CADRE: Durban.
- Chetty, D. (2000). *Institutionalising the Response to HIV/AIDS in the South African University Sector: A SAUVCA Analysis*. Pretoria: SAUVCA.
- Chetty, D., & Michel, B. (2005). *Turning the tide: A strategic response to HIV and AIDS in South African Higher Education. HEAIDS Programme Report : 2002–2004*. Pretoria: SAUVCA.
- Cohen, M.S. (2006). Amplified transmission of HIV-1: missing link in the HIV pandemic. *Transactions of the American Clinical and Climatological Association*, 117, 213–225.
- Colvin, M., Connolly, C., & Madurai, L. (2007). The epidemiology of HIV in South African Workplaces. *AIDS* 21(S3), S13–19.
- Crewe, M., & Maritz, J. (2006). *Imagined Futures. How to strengthen institutions of higher education in the South?*. Conference paper presented in Oslo, Norway, 16–17 November.
- Department of Health. (2008). *The national HIV and syphilis prevalence study: South Africa*. Pretoria: Department of Health.
- Durden, E. (2008). *DramAidE Health Promoter Project in higher education institutions: Evaluation*. Johannesburg: CADRE.
- Fethers, K., Marks, C., Mindel, A., & Estcourt, C.S. (2000). Sexually transmitted infections and risk behaviours in women who have sex with women. *Sexually Transmitted Infections*, 76:345–349.
- Fisher, J., Bang, H., & Kapiga, S.H. (2007). The Association Between HIV Infection and Alcohol Use: A Systematic Review and Meta-Analysis of African Studies. *Sexually Transmitted Diseases*, 34(1), 856–863.
- Freeman, E.E., Weiss, H.A., Glynn, J.R., Cross, P.L., Whitworth, J.A., & Hayes, R.J. (2006). Herpes simplex virus 2 infection increases HIV acquisition in men and women: Systematic review and metaanalysis of longitudinal studies. *AIDS*, 20, 73–83.
- Gontek, I. (2007). *Sexual violence against lesbian women in South Africa*. MA Thesis in African Studies, Cologne.
- Gray, R.H., Wawer, M.J., Brookmeyer, R., & Sewankambo, N.K. (2001). Probability of HIV-1 transmission per coital act in monogamous heterosexual, HIV-1-discordant couples in Rakai, Uganda. *The Lancet*, 357, 1149–1153.
- Griesel, H. (Ed) (2004). *Curriculum Responsiveness: Case studies in Higher Education*. Pretoria: SAUVCA.

- Grundling, J.P., Pillay, M., Bester, G., & Sibanda, E.S. (2003). *Knowledge, attitude and Practices Survey*. Pretoria: Technikon Pretoria.
- Hall, M. (2007). *Responses to HIV/AIDS at UCT: Report to council, March 2006*. Cape Town: UCT.
- Halperin, D., & Epstein, H. (2007). Why is HIV prevalence so severe in Southern Africa? The role of multiple concurrent partnerships and lack of male circumcision: Implications for AIDS prevention. *Southern African Journal of HIV Medicine*, March, 19–27.
- Heeren, G.A., Jemmott, J.B., Mandeya, A.L., & Tyler, J.C. (2009). Sub-Saharan African university students' beliefs about condoms, condom-use intention, and subsequent condom use: a prospective study. *AIDS and Behavior*, 13, 268–276.
- Heeren, G.A., Jemmott, J.B., Mandeya, A.L., & Tyler, J.C. (2007). Theory based predictors of condom use among university students in the United States and South Africa. *AIDS Education and Prevention*, 19(1), 1–12.
- Higher Education HIV/AIDS Programme. (2004). *HIV and AIDS audit: interventions in South African higher education 2003–2004*. Retrieved from <http://www.heads.ac.za>.
- Higher Education HIV/AIDS Programme. (2005). *South African case studies in VCT services in higher education institutions 2002–2004*. Pretoria: HESA/HEAIDS.
- Higher Education HIV/AIDS Programme. (2006). *HEAIDS strategic framework: 2006–2009 and beyond*. Retrieved from <http://www.heads.ac.za>.
- Higher Education South Africa. (2005). *VCT Services in Higher Education Institutions 2002–2004*. Pretoria: HESA. Retrieved from <http://www.hesa.org.za>.
- Holmes, K.K., Levine, R., & Weaver, M. (2004). Effectiveness of condoms in preventing sexually transmitted infections. *Bulletin of the World Health Organisation*, 82(6), 454–461.
- Hunter, M. (2002). The materiality of everyday sex: Thinking beyond 'prostitution.' *African Studies*, 61(1), 99–120.
- Inkoom, D. (2009). *African Universities Responding to HIV/AIDS: Sida Evaluation*. Stockholm: Sida. Retrieved from <http://www.sida.se/publications>.
- Jacobs, J., & Bosman, V. (2004). *HIV and AIDS in the curriculum: a critical intervention point*. International AIDS Conference. Jul 11–16, Abstract no. E11906.
- Katjavivi, P., & Otaala, B. (2003). *African higher education institutions responding to the HIV/AIDS pandemic*. Paper presented at the AAU Conference of Rectors, Vice Chancellors and Presidents of African Universities, Mauritius, March 17–21.
- Kalichman, S. C., Simbayi, L. C., Vermaak, R., Jooste, S., & Cain, D. (2008). HIV/AIDS risks among men and women who drink at informal alcohol serving establishments (Shebeens) in Cape Town, South Africa. *Prevention Science*, 9, 55–62.
- Katz, I., & Low-Beer, D. (2008). Why has HIV stabilized in South Africa, yet not declined further? Age and sexual behavior patterns among youth. *Sexually Transmitted Diseases*, 35(10), 837–842.
- Kelly, M. (2001). *Challenging the challenger. Understanding and expanding the response of universities in Africa to HIV/AIDS*. Washington: Association for the Development of Education in Africa.
- Kelly, M. (2003). The significance of HIV/AIDS for Universities in Africa. *Journal of Higher Education in Africa*, (1)1, 1–23.
- Kennedy, M.B., Scarlett, M.I., & Duerr, A.C. (1995). Women who have sex with women: Scientific communication issues. *Journal of the American Medical Women's Association*, 50(3/4), 103–107.
- Kohler, H.P., & HELLERINGER, S. (2006). *The structure of sexual networks and the spread of HIV in sub-Saharan Africa: Evidence from Likoma Island, Malawi*. PARC Working Paper Series, WPS 06-02. Population Ageing Research Center, University of Pennsylvania.
- Korenromp, E.L., Bakker, R., Vlas, S.J., Gray, R.H., Wawer, M.J., Serwadda, D., Sewankambo, N.K., Habbema, J.D. (2002). HIV dynamics and behaviour change as determinants of the impact of sexually transmitted disease treatment on HIV transmission in the context of the Rakai trial. *AIDS*, 16(16), 2209–2218.
- LaBrie, J., Earleywine, M., Schiffman, J., Pedersen, E., & Marriot, C. (2005). Effects of alcohol, expectancies, and partner type on condom use in college males: event-level analyses. *Journal of Sex Research*, 42(3), 145–152.
- Leclerc-Madlala, S. (2004). Transactional sex and the pursuit of modernity. *Social Dynamics*, 29(2), 1–21.
- Lesko, N. (2007). University teaching and social cohesion in the age of AIDS: A South African case study. *Prospects*, 37(3), 333–344.
- Levine, S., & Ross, F.C. (2002). Perceptions of and Attitudes to HIV/AIDS among Young Adults in Cape Town. *Social Dynamics*, 28(1), 89–108.
- Mercer, C.H., Copas, A.J., Sonnenberg, P., Johnson, A.M., McManus, S., Erens, B., & Cassell, J.A. (2009). Who has sex with whom? Characteristics of heterosexual partnerships reported in a national probability survey and implications for STI risk. *International Journal of Epidemiology*, 38:206–14.
- Morris, M., & Kretschmar, M. (1997). Concurrent partnerships and the spread of HIV. *AIDS*, 997(11), 651–658.
- Morris, M., & Kretschmar, M. (2000). *A microsimulation study of the effect of concurrent partnerships on the spread of HIV in Uganda*. Working Paper. Population Research Institute, Pennsylvania State University.
- Mulwo, A.K., Tomaselli, K.G., & Dalrymple, L. (2009). Condom brands, perceptions of condom efficacy, and the implications for HIV prevention among students at three universities in KwaZulu-Natal Province, South Africa. *African Journal of AIDS Research*, 8(3), 311–320.
- National Student Financial Aid Scheme. (2008). *Annual Report: 2008*. Cape Town: NSFAS.
- National Research Council, Committee on the Institutional Means of Assessment of Risks to Public Health, Commission on Life Sciences. (1983). *Risk assessment in the federal government: Managing the process*. Washington DC: National Academy Press.
- Pettifor, A.E., Rees, H.V., Steffenson, A., Hlongwa-Madikizela, L., MacPhail, C., Vermaak, K., & Kleinschmidt, I. (2004). *HIV and sexual behaviour among young South Africans: a national survey of 15–24 year olds*. Johannesburg: Reproductive Health Research Unit.
- Phaswana-Mafuya, N. (2005). HIV/AIDS situational analysis among tertiary institutions in the Eastern Cape. *South African Journal of Higher Education*, 19(6): 1141–1159.

- Pilcher, C.D., Tien, H.C., Eron, J.J., Vernazza, P.L., Leu, S., Stewart, P.W., Goh, L., & Cohen, M. (2004). Brief but efficient: Acute HIV infection and the sexual transmission of HIV. *Journal of Infectious Diseases*, 189, 1785–1792.
- Rau, A. (2009). *Mapping the response to HIV/AIDS at Rhodes University*. Grahamstown: Rhodes/HEAIDS.
- Rausand, M., & Høyland, A. (2004). *System Reliability Theory – Models and statistical methods*. Second Edition. New York: Wiley.
- Sahasrabudde, V.V., & Vermund, S.H. (2007). The future of HIV prevention: control of sexually transmitted infections and circumcision interventions. *Infectious Disease Clinics of North America*, 21(1), 241–57.
- Saint, W., Otaala, B., Chetty, D., & Ojuando, M. (2004). *Crafting institutional responses to HIV/AIDS: Guidelines and resources for tertiary institutions in Sub-Saharan Africa*. Washington: World Bank.
- Sandfort, T.G.M., Nel, J., Rich, E., Reddy, V., & Yi, H. (2008) HIV testing and self-reported HIV status in South African men who have sex with men: results from a community-based survey. *Sexually Transmitted Infections*, 84:425–429.
- Shaikh, N., Abdullah, F., Lombard, C.J., Smit, L., Bradshaw, D., & Makubalo, L. (2006). Masking through averages – intraprovincial heterogeneity in HIV prevalence within the Western Cape. *South African Medical Journal*, 96(6), 538–543.
- Shisana, O., Hall, E., Maluleke, K.R., Stoker, D.J., Schwabe, C., Colvin, M., et al. (2002). *The impact of HIV/AIDS on the health sector: National survey of health personnel, ambulatory and hospitalized patients and health facilities*. Cape Town: HSRC Press.
- Shisana, O., & Simbayi, L. (2002). *Nelson Mandela/ HSRC study of HIV/ AIDS: South African national HIV prevalence, behavioural risks and mass media household survey*. Cape Town: HSRC Press.
- Shisana, O., Peltzer, K., Zungu-Dirwayi, N., & Louw, M.A. (2005). *The health of our educators: A focus on HIV/AIDS in South African public schools, 2004/5 Study*. Cape Town: HSRC Press.
- Shisana, O., Rehle, T., Simbayi, L.C., Parker, W., Zuma, K., Bhana, A., Connolly, C., Jooste, S., & Pillay, V. (2005). *Nelson Mandela/ HSRC study of HIV/AIDS: South African national HIV prevalence, HIV incidence, behaviour and communications*. Cape Town: HSRC Press.
- Shisana, O., Rehle, T., Simbayi, L.C., Zuma, K., Jooste, S., Pillay-van Wyk, V., Mbelle, N., Van Zyl, J., Parker, W., Zungu, N.P., Pezi, S., et al. (2009). *South African national HIV prevalence, incidence, behaviour and communication survey 2008: A turning tide among teenagers?*. Cape Town: HSRC Press.
- Siegfried, N., Muller, M., Deeks, J.J., & Volmink, J. (2009). *Male circumcision for prevention of heterosexual acquisition of HIV in men*. Cochrane Database of Systematic Reviews, Issue 2.
- Statistics South Africa. (2007). *Mid-year population estimates 2007*. Pretoria: StatsSA.
- UNAIDS. (2008). *Report on the global AIDS epidemic*. Geneva: UNAIDS.
- UNESCO & UNAIDS. (2006). *Linking EDUCAIDS with other ongoing initiatives. An overview of opportunities. An assessment of challenges*. Washington: UNESCO/UNAIDS.
- UNAIDS Reference Group on Estimates, Modelling, and Projections: Working Group on Measuring Concurrent Sexual Partnerships (2009). HIV: consensus indicators are needed for concurrency. *The Lancet*, 10.1016/S0140-6736.
- University of Cape Town. (2006). *UCT HIV/AIDS Colloquium: Summary report*. Cape Town: UCT.
- University of Fort Hare. (2009). *From reflection to action: obstacles and successes in integrating HIV/AIDS into University Curricula*. Symposium, 15–16 May. East London: UFH.
- University of Natal (2000). *Managing the Impact of HIV/AIDS in Universities: A Case Study of an African University. A study undertaken for the Commonwealth Higher Education Management Service, Association of Commonwealth Universities*. Durban: University of Natal.
- University of Pretoria. (2007). *Imagined Futures II: Universities as incubators of change. Conference report*. University of Pretoria, Centre for the Study of AIDS, 26–27 September.
- Uys, T., Martin, L., Ichharam, M., Alexander, P., Els, R., & Eiselen, R. (2002). *HIV/AIDS and students at RAU. Final report*. Johannesburg: Rand Afrikaans University.
- Uys, T., & Ichharam, M. (2006). *Towards an Intervention: A qualitative study of university students' perceptions of HIV/AIDS*. Paper at RAU Sociology Seminar Series. Johannesburg: RAU.
- van Wyk, B., & Pieterse, J. (2006). *Institutional responses to HIV/ AIDS from institutions of higher education in the Southern African Development Community*. Report commissioned by SARUA. Pretoria: University of Pretoria, Centre for the study of AIDS.
- Varghese, B., Maher, J., Peterman, T.A., Branson, B.M., & Steketee, R.W. (2002). Reducing the risk of sexual HIV transmission: Quantifying the per-act risk for HIV on the basis of choice of partner, sex act, and condom use. *Sexually Transmitted Diseases*, 29(1), 38–43.
- Vernazza, P.L., Eron, J.J., Fiscus, S.A., & Cohen, M.S. (1999). Sexual transmission of HIV: infectiousness and prevention. *AIDS*, 13, 155–166.
- Weiser, S.D., Leiter, K., Heisler, M., McFarland, W., Percy-de Korte, F. et al. (2006). A population-based study on alcohol and high-risk sexual behaviors in Botswana. *PLoS Medicine*, 3(10), e392.
- Wilken, E.C., & Badenhorst, J.W. (2003). A comparative analysis of sexual harassment policies at selected higher education institutions in South Africa. *South African Journal of Higher Education*, 17(2): 197–205.
- World Health Organization, UNAIDS. (2001). *Guidelines for Using HIV Testing Technologies in Surveillance: Selection, Evaluation, and Implementation*. Geneva: WHO/UNAIDS.



The Higher Education HIV and AIDS Programme (HEAIDS) is an initiative of the Department of Higher Education and Training undertaken by Higher Education South Africa. It is funded by the European Union under the European Programme for Reconstruction and Development in terms of a partnership agreement with the Department.

The content of this publication is the sole responsibility of HEAIDS and can in no way be taken to reflect the views of the European Union.



Funded under the European Programme
for Reconstruction and Development