PRIMARY SCHOOL ACTION FOR BETTER HEALTH

SELF-COMPLETION SURVEY

PRE-PROGRAMME

VOLUME 1 of 2

TEACHERS

Subcontractor: University of Windsor
Project: Kenya HAPAC
Prime Contract #: CNTR 96 1134A
Subcontract #: 5180-DZ-76-04

Prepared by: Eleanor Maticka-Tyndale, PhD
January 26, 2002

TABLE OF CONTENTS

INTRODUCTION

Primary School Action for Better Health (PSABH) is an HIV/AIDS prevention programme being implemented by the Centre for British Teachers (C*f*BT) under a contract from Futures Group Europe (FGE), DFID's managing agent for the HIV/AIDS Prevention and Care (HAPAC) project. PSABH is being piloted and evaluated in Nyanza Province. The University of Windsor, Ontario, Canada has been contracted to advise on evaluation and research design and to conduct relevant analyses for these components of PSABH.

This report summarizes results of the self-completion survey conducted prior to initiation of the prevention programme. The purpose of the survey was threefold:

(1) to establish baseline data for use in programme evaluation;
(2) to provide information to help guide both collection of data using qualitative approaches and development of mid- and post-programme data collection instruments;
(3) to provide a portion of the data which will be used in identifying factors that facilitate or impede HIV/AIDS prevention.

Volume I summarizes survey responses from teachers and Volume II summarizes responses from students in Standards 6 and 7.

OVERVIEW OF METHODOLOGY

Design:

- A quasi-experimental design is being used in programme evaluation.
- Schools are selected for participation in the evaluation using multi-stage stratified, disproportionate random sampling:
  - Stratification by district and academic performance:
    - Schools in Nyanza province were listed by district and zone.
    - Schools in each zone were rank ordered and divided into thirds by academic performance of their students using mean scores attained on annually conducted, standardized national examinations.
    - Schools from each zone comprised 4 sampling frames:
      - Target schools – to receive PSABH programme:
        - top performing school (referred to as top target).
        - top performing school in the bottom performance third (referred to as bottom target).
      - Control schools – not to receive PSABH programme.
        - second highest performing school (referred to as top control).
        - bottom performing school in the second performance third (referred to as bottom control).
- Schools were randomly selected from each of the 4 lists using the following criteria:
  - <20% from top and ≥80% from bottom.
  - Number selected in each district approximately proportional to the number of zones in the district.
  - Equal number of target and control in each of top and bottom groups in each district.
- Teacher selection for survey completion was at the discretion of each school. Each school was asked to have 3 teachers complete the survey, with at least 1 of these teachers female.

Data Collection:

- Data were collected in
  - 158 Nyanza schools from 440 teachers as follows:

Category	# of schools	# of teachers
Top Target	14	36
Top Control	14	40
Bottom Target	66	180
Bottom Control	64	184
Total Target	80	216
Total Control	78	224
Total Top	28	76
Total Bottom	130	364

- In two schools which were part of the student sample, the head teacher was absent when the study team arrived and teachers declined to complete the survey without his approval.
- Schools in 11 of the 13 Nyanza districts were surveyed. Two districts were excluded because they did not provide CfBT with the information required for sampling.

- Between 1 and 5 teachers were surveyed in each school with 3 in most.
- 98 schools surveyed included at least 1 female teacher; 60 surveyed had no female teachers complete the survey. A summary of schools with and without female teachers participating in survey completion, by school category is as follows:

Category	# schools with female teacher	# schools without female teacher
Top Target	9	5
Top Control	9	5
Bottom Target	40	24
Bottom Control	40	26
Total Target	49	29
Total Control	49	31
Total Top	18	10
Total Bottom	80	50

- Data were collected during November, 2001
- Paper-and-pencil self completion surveys were used to collect data.
- Steadman Research organized and completed data collection.

Database Creation:

- Steadman Research created an SPSS database from completed surveys.

Analysis:

- Frequency distributions were run for all questions.
- Responses on each question were examined for statistically significant ($p \leq .05$) differences between:
  - Target and control schools
  - Top academic and bottom academic schools
  - Male and female teachers

  Statistically significant differences are noted in this report.
- A summative scale of knowledge was created.[1]
- Results were organized and presented topically with potential implications of results for programme up-take, programme success, and pre-post programme comparisons noted. Also noted are potential areas for further inquiry in qualitative

1 See Appendix A for description of scale

interviews with teachers. These are identified with numerical superscripts as follows:

1. Evidence of, or place where there is, likely uptake of the new curriculum.
2. Areas where there is room for improvement related to HIV/AIDS in the schools and where change between pre and post programme may be anticipated.
3. Areas requiring particular attention in training teachers for programme implementation.
4. Results which must be taken into consideration in future data analysis.
5. Areas for potential further exploration in qualitative inquiry.

- A summary of results was produced, organized based on the 5 areas noted above.

RESULTS

Profile of Teachers

Profile	Questions & Implications
Personal Profile:	
• Most teachers are • male (74%)	• Pay particular attention to the concern of male teachers in the training since they are in the majority.[3]
• between 30 and 44 years of age (median age for women= 35 yrs, for men=41 years)	• Older teachers are considered to be less interested in change; however, they have more experience.[3,4]
• to have children (92%) (men more than women)	• Teacher training may carryover into the home &/or concerns as parents may be brought into the classroom.[1]
• Protestant (72%) • The most common community activity is to teach Sunday School (36%)	• See comments on religion in school profile section.
Teaching Profile:	
• Most have taught primary school for 10 or more years (70%) & at this school for 3-9 years (54%) • This is more the case for men than women and for teachers in bottom than in top schools.	• Long-time teachers may be less willing to take up new materials. • Important to control for gender in analysis.
• Most (74%) are not PRISM trained	• In-service training is a new experience for most

Profile of Schools

Profile	Implications & Questions

• Most sponsored by **religious organizations** (87%).
  • This is significantly higher for target (92%) than control (85%) schools
  • More Protestant (52%) than Catholic (35%)
	• What are churches teaching about sexuality & HIV/AIDS? Both Protestant & Catholic.[3,5]
	• If churches have an influence this may be stronger in target than control schools.[4]
	• Can we work with the churches? What are the church sponsored programmes saying/doing re AIDS, sex & condoms?[3, 5]

• Top schools have significantly **younger teachers** with fewer years of Primary School teaching experience (48% of teachers responding from bottom schools have 15 or more years teaching in Primary Schools)	• Younger teachers tend to be more receptive to new pedagogy and curriculum. Top schools may perform better than bottom because of this.[4]
• Head and upper standard teachers are more likely to be **male** than female. The only subject which female teachers are more likely than male teachers to have recently taught in Standards 6-8 is Home Economics	• Pay particular attention to the concerns of male teachers since it is primarily men who will be teaching the curriculum.[3]
• Main **co-curricular activities** in the schools are: games & sports (51%) debates (43%) music (43%) drama (36%) • Significantly more male than female teachers co-curricular activities.	• Potentially target these co-curricular activities for inclusion of HIV/AIDS content.[1] • It is likely that it will be primarily male teachers who will be working with infusion of HIV/AIDS materials into co-curricular activities.[3]
• Most schools have a **School Development Plan** (80%) • Hygiene is often in the plan (84%) but	• Schools are familiar with developing such plans.[1] • There is room for improvement

HIV/AIDS (41%) and sexuality (34%) are not.

here.[2]

HIV/AIDS in the Schools

Summary of Results	Questions & Implications

• AIDS is in the **Master timetable** in most schools (76%)
  • Few schools have a scheme for teaching AIDS (35%)
  • Few schools have infusion plan (32%)
  • Few have question box (3%) or information corner (13%)
	• This is already accomplished in most schools.[1]
	• There is room for improvement in developing teaching & infusion plans and in specifics of how information is conveyed to students.[2]

• In the last full term, HIV/AIDS was
  • most often addressed in assemblies & staff meetings (3 or more times 62% & 68% respectively)
  • Rarely in classroom work displays, school work displays or class competitions. (Never in these fora 40%, 46%, 56% respectively)
• Most schools have not invited an outside speaker (70%)
• The most commonly reported activities (organized in the past year) addressing HIV/AIDS were
  • AIDS awareness
  • film presentations
  • drama and dance
	• Schools *are* addressing HIV/AIDS, but in ways that are relatively safe, and minimize interaction, involvement of or discussion with students. This further suggests readiness to take up the new curriculum and room for improvement in what is currently being done.[1, 2]

• Teachers from bottom schools were less likely to report each of these activities.	• Top schools may demonstrate greater uptake and success than bottom.[1, 4]
Resources: • Most schools have the AIDS education syllabus (81%) and a slight majority of teachers (56%) are using the syllabus to teach or develop lesson plans. • For all other materials, over 70% claim the school does not have a copy	• Teachers *are* using what is available, suggesting a willingness/desire to take up HIV education.[1]
• Almost all teachers note the absence of texts as an impediment to teaching about HIV/AIDS.	• PSABH provision of materials is a major contribution.[2]

Summary of Results	Questions & Implications

• AIDS is in the **Master timetable** in most schools (76%)
  • Few schools have a scheme for teaching AIDS (35%)
  • Few schools have infusion plan (32%)
  • Few have question box (3%) or information corner (13%)
	• This is already accomplished in most schools.[1]
	• There is room for improvement in developing teaching & infusion plans and in specifics of how information is conveyed to students.[2]

Teaching Issues:	
• Teachers divided on whether they do (42%) or do not have enough time (51%) for HIV/AIDS.	• Important to incorporate HIV/AIDS into existing activities.[3]
• Most (87%) feel they have not received sufficient training.	• PSABH should alleviate this concern.[2]
• Teachers are divided on whether they think parents are reluctant (46%) or not (41%) to have HIV/AIDS addressed in the school	• Community outreach and buy-in from parents is important.[3, 5]
• There is little concern about teacher discomfort (62% don't agree that teachers are uncomfortable) with fewer female than male teachers indicating discomfort.	• These indicate readiness to take up the curriculum. However, there are still some teachers, especially men who are uncomfortable. [1, 2, 3, 5]
• Most do not feel raising HIV/AIDS with upper primary pupils does more harm than good (76% disagree)	• Training should deal with how to deal with pupil shyness.[2, 3, 5]
• Most feel pupils are too shy to talk about sexual matters (61%)	
Teacher Attitudes, Beliefs & Knowledge:	

• Almost uniform belief that:
  • Something can be done to reduce the spread of HIV (97%)
  • that the more information we give young people, the better (92%)
  • we need to talk more openly about sex (93%)
	• Good for uptake[1]

• A high proportion (82%) do not think AIDS has been made into too big a problem. Significantly more target (86%) than control (82%) school teachers hold this view.	• Good for uptake[1]

Summary of Results

- AIDS is in the **Master timetable** in most schools (76%)
  - Few schools have a scheme for teaching AIDS (35%)
  - Few schools have infusion plan (32%)
  - Few have question box (3%) or information corner (13%)

Potentially Problematic Beliefs & Attitudes:

- Most believe that
  - teaching that condoms give protection encourages pupils to have sex (76%)
  - having sex with someone outside marriage is wrong (91%)
- Though most do not hold to the following beliefs, a sizable minority do:
  - HIV is God's punishment for wicked behavior (34%)
  - People who get AIDS have only themselves to blame (37%)

Personal Risk

- Teachers are split on how much they feel they themselves are at risk (39% small, 25% moderate, 27% great)

Questions & Implications

- This is already accomplished in most schools.[1]
- There is room for improvement in developing teaching & infusion plans and in specifics of how information is conveyed to students.[2]

- These are beliefs that may influence teachers not to present 'safer sex' practices as an appropriate alternative to abstinence.[2, 3, 4, 5]

SUMMARY

What is the likelihood of uptake of PSABH Curriculum?

Results from the pre-programme survey completed by teachers support the conclusion that teachers and schools are ready to take-up the curriculum and potentially the pedagogy incorporated into PSABH training. This conclusion is based on the following survey results:

- Most schools have already incorporated HIV/AIDS into the Master timetable with teachers developing lessons using the Ministry of Education, Science and Technology guidelines.
- Many teachers are already instructing their colleagues in facts about AIDS and HIV.
- Most teachers feel inadequately trained in HIV and AIDS.

What can PSABH add to what is already being done in schools?

- Schools are typically addressing HIV and AIDS in staff meetings and school assemblies. Specific pedagogical techniques that are part of PSABH training such as a question box, information corners, infusion of curriculum, classroom and school work displays, class competitions and bringing outside speakers into the school, are notably absent in most school HIV/AIDS programmes. These absent techniques are those which have been demonstrated in other programmes to have the greatest likelihood of having an impact on students.
- Most schools have School Development Plans, but fewer than half include sexuality or HIV/AIDS in their plans.
- Knowledge about transmission and prevention has areas for potential improvement. Knowledge is the easiest area for improvement and the provision of textual materials as well as training during PSABH teacher workshops is likely to improve knowledge appreciably.
- Methods to overcome most of the concerns expressed by teachers and potential barriers to uptake and success of the PSABH program are already incorporated into the PSABH training and programme. These include:
  - lack of time -- PSABH teaches teachers how to incorporate HIV/AIDS into existing subjects and co-curricular activities.
  - lack of texts -- PSABH supplies texts.
  - lack of teacher training -- PSABH includes 2 training sessions for teachers of 1 week duration each.
  - teacher discomfort -- exercises during the PSABH training should raise the comfort level of teachers in dealing with matters of sexuality.
  - potential parent reluctance -- PSABH includes training of a community representative whose primary task is to involve the community in supporting the school. This will be important to addressing potential reluctance or unease on the part of parents.

What are the potential barriers to success?

- The issues listed above, while already addressed by PSABH, must receive careful attention since they could pose barriers to success if they are ignored.
- Certain beliefs on the part of a majority or sizable minority of teachers may pose barriers to success since they may impede teachers' ability to deal with the sexual behaviors of youth in a manner that can help youth reduce risky practices. These include, specifically:
  - Belief that AIDS is God's punishment
  - Belief that AIDS is one's own fault
  - Belief that teaching about condoms may encourage young people to engage in sex
  - Belief that sex outside marriage is wrong.

  It will be important to address these beliefs in training sessions, to explore their strength and potential impact on teaching in qualitative interviews with teachers and to monitor their potential impact in final data analysis.
- Most teachers have many years of Primary School experience. This can be either (or both) a benefit since they are experienced teachers, or a barrier since it is often newer teachers who are most interested in taking up new ideas about teaching and who are most comfortable with matters of sexuality.

What are the issues to pursue in qualitative interviews?

- Communication with parents to gain their support.
- Teacher-student communication – particularly dealing with shy students.
- Beliefs about
  - AIDS as a punishment for own behaviours
  - AIDS a punishment from God
  - Nonmarital sex
  - Teaching about condoms acts as an encouragement of sex

What are the issues for data analysis (and potential further inquiry)?

- Most schools are religiously sponsored. It will be important to control for religious sponsorship in the final analysis to determine if this influences the uptake and success of the program. It may be useful to explore the current Protestant and Catholic church teachings in the areas of HIV/AIDS and sexuality in Kenya as well as to search out 'best practices' in terms of approaches that have been taken by Protestant and Catholic churches and groups with a view toward bringing these to the attention of local leaders.
- Most teachers, and particularly head teachers and upper standard teachers are men. In addition, men are most often responsible for co-curricular activities. Male teachers are significantly older than female teachers and men's knowledge is somewhat poorer than women's. Each of these gender differences may affect program success. Consequently it will be important to control for gender in analyses to determine whether this influences programme success.

- Schools whose students are academically high achievers have already moved ahead of schools whose students are low achievers in the area of HIV/AIDS teaching. Teachers in the former schools are also more likely to be younger. This may make the high achieving schools better able or more ready to take up a new curriculum. Academic level will have to be controlled in analysis and it may be useful to examine specific areas in which high and low schools are most successful so that future program modifications may tailor training and curriculum to high and low schools.
- The sample of teachers is large enough to make statistical significance a potentially poor indicator of meaningful differences. Differences as small as 4% are statistically significant, but are they meaningful? The research team will have to consider how large a change or difference is meaningful for this programme.

APPENDIX B

Knowledge Scale

The following items were combined into a summative scale to produce a score that represented the percentage of correct responses. In each case, correct answers were scored as '1' and incorrect answers, answers of 'I am not sure' and missing answers were scored as '0.'

Statement	Correct Answer
Below is a list of actions people have claimed can reduce the chances of becoming infected with HIV/AIDS. Which do you believe can reduce the chances of infection?	
Avoid having sex	Yes
Don't wear the clothes of someone who is sick with AIDS	No
Have fewer sex partners	Yes
Avoid having sex with thin people	No
Don't share razor blades	Yes
Avoid sharing a plate of food with an infected person	No
Always use a condom correctly when playing sex	Yes
Avoid deep or wet kissing	Yes
Be faithful to one uninfected partner	Yes
Avoid being bitten by mosquitoes or other insects	No
Make sure any injections are done with a clean needle	Yes
Avoid shaking hands with someone sick with AIDS	No
Promote male circumcision	Yes

Items surveyed but not included because of lack of clarity on correct answer:

- Eat a good diet
- Avoid circumcision
- Avoid kissing

PRIMARY SCHOOL ACTION FOR BETTER HEALTH

SELF-COMPLETION SURVEY

PRE-PROGRAMME

VOLUME 2 of 2

STUDENTS

Subcontractor: University of Windsor
Project: Kenya HAPAC
Prime Contract #: CNTR 96 1134A
Subcontract #: 5180-DZ-76-04

Prepared by: Eleanor Maticka-Tyndale, PhD
February 19, 2002

TABLE OF CONTENTS

INTRODUCTION

Primary School Action for Better Health (PSABH) is an HIV/AIDS prevention programme being implemented by the Centre for British Teachers (C*f*BT) under a contract from Futures Group Europe (FGE), DFID's managing agent for the HIV/AIDS Prevention and Care (HAPAC) project. PSABH is being piloted and evaluated in Nyanza Province. The University of Windsor, Ontario, Canada has been contracted to advise on evaluation and research design and to conduct relevant analyses for these components of PSABH.

This report summarizes results of a self-completion survey conducted prior to initiation of the prevention programme. The purpose of the survey was threefold:

(4) to establish baseline data for use in programme evaluation;
(5) to provide information to help guide both collection of data using qualitative approaches and development of mid- and post-programme data collection instruments;
(6) to provide a portion of the data which will be used in identifying factors that facilitate or impede HIV/AIDS prevention.

Volume 1 summarizes survey responses from teachers and Volume II summarizes responses from students in Standards 6 and 7.

OVERVIEW OF METHODOLOGY

Design:

- A quasi-experimental design is being used in programme evaluation.
- Schools are selected for participation in the evaluation using multi-stage stratified, disproportionate random sampling:
  - Stratification by district and academic performance:
    - Schools in Nyanza province were listed by district and zone.
    - Schools in each zone were rank ordered and divided into thirds by academic performance of their students using mean scores attained on annually conducted, standardized national examinations.
    - Schools from each zone comprised 4 sampling frames:
      - Target schools – to receive PSABH programme:
        - top performing school (referred to as top target)
        - top performing school in the bottom performance third (referred to as bottom target)
      - Control schools – not to receive PSABH programme
        - second highest performing school (referred to as top control)
        - bottom performing school in the second performance third (referred to as bottom control)
  - Schools were randomly selected from each of the 4 lists using the following criteria:
    - <20% from top and ≥80% from bottom
    - Number selected in each district approximately proportional to the number of zones in the district
    - Equal number of target and control in each of top and bottom groups in each district
- All students in Standards 6 and 7 in selected schools were invited to complete the survey in the pre-programme stage.

Data Collection:

- Data were collected in
  - 160 Nyanza schools from 7903 students as follows:

Category	# of schools	# of students
Top Target	14	791
Top Control	14	665
Bottom Target	66	3194
Bottom Control	66	3253
Total Target	80	3985
Total Control	80	3918
Total Top	28	1456
Total Bottom	132	6447

- Schools in 11 of the 13 Nyanza districts were surveyed. Two districts were excluded because they did not provide CfBT with the information required for sampling.
  - In 9 districts (Nyamira, Gucha, Migori Homabay, Kuria, Siaya, Nyando, Kisumu Rural, Rachuonyo) an equal number of target and control schools were surveyed.
  - In 2 districts (Kisii, Kisumu Municipality) the number of target and control schools surveyed was not equal.
- Data were collected during November, 2001.
- Paper-and-pencil self completion surveys were used to collect data.
- Steadman Research organized and completed data collection.

Database Creation:

- Steadman Research created an SPSS database from completed surveys.

Analysis:

- Frequency distributions were run for all questions.
- A summative scale of knowledge was created using 22 questions in the survey. [2]
- Responses on each question were examined for statistically significant ($p \leq .05$) differences between:
  - Target and control schools
  - Top academic and bottom academic schools
  - Male and female students
  - Luo and Kisii students
  - Students from households of varying socio-economic status
- Multivariate analyses were conducted to begin identification of factors with a potential influence on outcome indicators.
- Results that are statistically significant at $p \leq .01$ are noted in this report.[3]

2 See Appendix A for description of scale

3 The sample of students is so large that even small effects are statistically significant.

- Results were organized and presented topically with potential implications of results for programme success and pre-post programme comparisons noted. Also noted are potential areas for further inquiry in qualitative interviews with students. These are identified in the body of the report with numerical superscripts as follows:
    6. Areas where there is room for improvement related to HIV/AIDS and where change between pre and post programme may be anticipated.
    7. Factors which may influence programme success.
    8. Areas for potential further exploration in qualitative inquiry.
    9. Methodological issues.
- A summary of results was produced, organized based on the 4 areas noted above.

RESULTS

Profile of Students

Profile	Questions & Implications
• Male (52%) and female (48%) students were nearly equal.	

• Students ranged in age from 11 to 25 years, with a median age of 14.2. 50% of students were between 14 and 15 years of age and 77% between 13 and 16 years. Students were significantly younger
  • Among girls (med=13.9) than boys (med=14.4) (p<.001)
  • In standard 6 (median=13.7) than 7 (median=14.7)(p <.001)
  • In schools from top (med = 13.6) than bottom (med = 14.2) academic ranks (p < .001)
  • Among Kisii (med=13.9) than Luo (med=14.2) (p<.001)
	Consider restricting analysis to a narrower age range since life experience and sexual behaviors are decidedly different between 11-12 year olds and 20-25 year olds.[4]
	Most differences are as would be expected.

• Luo (56%) are the predominant ethnic group followed by Kisii (36%) and Kuria (5%)	Sufficient Luo & Kisii to compare these 2 groups.

• Socio-economic Status (SES) was measured using a combination of 6 items (questions 8 & 9) standardized to a scale of 0-100. The distribution approximated a normal curve with mean of 54.7 and median of 52.2. SES was significantly higher
  • In top (Mean=61) than bottom (Mean=53.3) schools (p<.001)
  • Among Kisii (Mean=56.2) than Luo (Mean=53.6) students (p<.001)
	Numerical value not meaningful – consider establishing meaningful categories of SES.
	As expected
	Could be meaningful

• 58% of students had missed some school because of inability to pay fees; however, this was most typically 2 weeks or less (51%). Significantly more students missed any school
  • Among boys (60%) than girls (56%) (p<.001)
  • From bottom (59%) than top (43%) academic schools (p<.001)
  • Among Luo (53%) than Kisii (50%) children (p<.001)
  • From lower than higher SES homes (p<.001)
	As expected.
	As expected.

Learning About HIV/AIDS

Summary of Results	Implications & Questions

Lessons Learned in School
• Most students report having had lessons in
  • The difference between boys and girls (82%)
  • How your body changes as you grow up (71%)
  • Sex (50%)
  • HIV/AIDS (86%)
• The most common place for lessons was in class.
	Results suggest schools are already taking up HIV/AIDS lessons. This percentage is unlikely to increase much. Lessons on sex is an important area for improvement.[2, 4]

• Lessons on HIV/AIDS were rated as
  • Very useful by 81% of students.
  • Telling everything the student felt was needed by 73% of students.
  • Difficult to understand by 39% of students.
  • A bit shameful by 50% of students.
  • Very boring by 42% of students.
  • Helping the student to make the right decisions about when to have sex by 70% of students.
  • Helping the student protect him/herself from diseases transmitted by sex by 77% of students.
	Results suggest students are ready to take up the new curriculum since they find what is already taught useful and helpful. The new curriculum can improve on making the information interesting and easy to understand.[1, 2]
	Pay attention to feelings of 'shame' which might block students' ability to use what they learn.

• Most students had actively engaged in learning about HIV/AIDS through:
  • Asking a question in the question box (51%)
  • Asking a teacher (59%)
  • Talking to a parent (54%)
• Fewer had
  • taken part in a competition on an HIV/AIDS theme (26%)
  • read about HIV/AIDS in the school information corner (33%)
  • Talked about HIV/AIDS at the school health club (47%)
	All areas can be improved.[1] Statistically, improvement is likely to be greatest where percentages are lowest, so long as the appropriate resources (e.g. an available competition) are present.[4]

Summary of Results

- The most important lessons that students listed as learned in the last semester were:
  - Dangers of AIDS (19%)
  - To abstain (15%)
  - General topics – how AIDS is transmitted (9%)
- Of note is that 33% of students did not list any topic in response to this question.

Implications & Questions

Important to note that condom use is not listed. [1]

Lessons Learned Outside School

- There are significant differences between girls and boys in whom they are most and least likely to talk to about HIV/AIDS (p<.001 in both cases):
  - Girls are most likely to talk to their
    - mothers (52%),
    - grandmothers (10%),
    - older sisters (10%);
  - Boys are most likely to talk to their
    - fathers (29%),
    - grandfathers (12%),
    - friends (10%)
  - Girls are least likely to talk to their fathers (42%) ; boys to their mothers (20%)

These follow gender-lines found around the world. The literature suggest, however, that youth in Kenya do not speak to parents about sexual matters. This needs to be explored further.

- Students say they have learned a lot about HIV and AIDS from:
  - Radio (69%)
  - Television (53%)
  - Newspapers (49%)
  - Magazines (boys 44%, girls 47%; p< .001)
- They are less likely to say they have learned a lot from:
  - Story books (37%)
  - School text books (30%)
  - Pamphlets or brochures (22%)
- Only 10% of students list teachers as a source of information on AIDS and HIV

It may be important to take account of what is being reported in the major forms of mass media (radio, TV) during the time of this intervention. Media messages may reinforce or contradict messages in the curriculum.[2, 4]

Textbooks and teachers as sources of information are areas that should increase in target schools.[1]

Knowledge about HIV/AIDS

Summary of Results

- Almost all (90%) have heard of AIDS. Signifiantly more
  - Boys (92%) than girls (89%) (p<.001)
  - Students from schools with top (94%) than bottom (89%) academic standing (p<.001)
  - Students from target (91%) than control (89%) schools (p<.001)

- Most (77%) state there are things people can do to protect themselves against HIV/AIDS. This was stated by significantly more
  - Girls (78%) than boys (75%) (p<.001)
  - Students from schools with top (79%) than bottom (76%) academic standing (p<.001)
  - Kisii (79%) than Luo (77%) students (p<.001)
  - Students who missed no school or 2 weeks or less (76%) than those who missed 3 weeks or more (31%) (p<.001)
- Knowledge related to HIV was assessed with several clusters of questions:
  - 16 questions on how people can prevent getting infected
    - On 12 questions fewer than 50% of respondents provided the correct answer. In many cases near equal numbers provided correct and incorrect answers.
    - On the remaining 4 questions (avoiding sex, using a condom, sharing razors and injecting with clean needles) 67-71% responded correctly.
    - Questions specifically related to avoiding sexual transmission did not produce markedly high correct responses:
      - Avoid sex 71% correct
      - Have fewer sexual partners 35%
      - Be faithful to one uninfected partner 49%
      - Use a condom correctly when playing sex 62%

Questions & Implications

Awareness is high & unlikely to change – even in bottom or control schools. While all of these results are statistically significant, the small size of the differences between groups suggest they are not meaningful differences.[4]

With the exception of the difference between students who missed little or much school, the remainder of the differences are small and probably not meaningful.

Knowledge is generally low – this is an area in which the programme can produce improvement.[1]

Summary of Results

- 8 statements reflecting what people have said about HIV/AIDS, 4 of which tapped knowledge and 4 actions. Between 50% and 60% of students responded correctly to the knowledge questions.
- 4 questions on HIV testing which 32-42% of students answered correctly
- 4 questions on STDs and their relationship to HIV vulnerability which 30%-50% answered correctly.
- For several questions in each of these sections the truth or falsehood of the statement was conditional (e.g. prevent HIV-AIDS by avoiding deep or wet kissing, avoiding or promoting circumcision). Students were typically split in their answers to these questions.

Questions & Implications

These questions should be omitted in post-programme survey.

Knowledge Scale

22 questions were combined into a knowledge measure. Each question received a score of 1 for a correct and 0 for an incorrect or 'unsure' answer. Scores were converted to reflect the percent of correct answers. Scores ranged from 0 to 95% correct answers, with a mean of 38% and median of 42%.

Multivariate Analysis – Knowledge scores were first regressed on lessons in M/F differences, body changes, sex, and HIV/AIDS. Age, gender, academic standing, ethnicity, SES and target/control were added to the results of the first regression using stepwise procedures.

This form of analysis produces results that indicate the isolated effect of each influencing factor while holding the effect of all other factors constant.

- Lessons had the strongest influence.In all cases, lessons increased knowledge.
  - The greatest increase (5.9 percentage points) came from lessons in HIV/AIDS.
  - The least (3.5 percentage points) from lessons on M/F differences.

Strong indication that the programme will have a significant effect regardless of potential interfering factors.[2]

- Of the remaining variables, gender, academic standing and SES contributed significantly to the score. On average:
  - Boys scored 1.2 percentage points higher than girls
  - Top schools scored 4 points higher than bottom
  - With each 1 point increase in SES, knowledge increased 5 percentage points.

Though statistically significant, this is a small difference.

SES may have an important influence

Perceptions

Summary of Results **Implications & Questions**

- Eight questions were asked about self perception.
  - Four related to perceptions related to personal agency or influences on one's life (luck, God, other's expectations, personal responsibility).
  - Four related to sexual agency and expectations (can say no to sex, girls mean no when they say no, I will be a virgin, my chance of getting AIDS).
  - Each of these groups of questions was tested to determine whether they formed coherent scales. Neither did, consequently, questions were each analyzed individually using analysis of variance. This form of analysis produces results that indicate the isolated effect of each influencing factor while holding the effect of all other factors constant.

Personal Agency or Influences

- While most students perceived themselves to have agency, control or responsibility for their own lives, a significant minority did not:
  - There is no such thing as luck (63% agree/24% disagree)
  - I am responsible for what happens to me (58% agree/23% disagree)
  - I often do what others want, even if I think it is a bad idea (48% disagree/35% agree)

  Personal agency is considered an important preliminary step toward taking action to protect oneself in situations where there are interpersonal and cultural pressures to act in a way that increases risk.
- Where there was strong uniformity of opinion was in agreement with the statement that "God plays a big role in my life." (70%)

  It is unclear what effect such a uniformly strong belief will have. At a minimum this supports the need to know what is being taught in churches.
- Analysis of variance produced consistent, statistically significant differences between students as follows:
  - more students in top than in bottom schools indicated personal agency or responsibility and also more agreed that God plays a big role in their lives (e.g., 75% top, 70% bottom)
  - more Luo students indicated personal agency or responsibility, but more Kisii agreed that God plays a big role in their lives (76% Kisii, 65% Luo).
  - more students who had not played sex indicated personal agency and that God plays a big role.

  These differences need to be explored qualitatively.
- There were no significant differences between boys and girls or between students in target and control schools

  This is consistent with research globally. The lack of gender difference once other factors

are controlled is important.

Summary of Results	**Implications & Questions**
Sexual Agency and Expectations	
• Students were split between those who did and did not indicate personal agency with respect to sexual activity.	

• There were statistically significant differences in agreement with the statement, "I can say no to sex" Agreement was higher for more
  • Boys (49%) compared to girls(47%)
  • Students from top (57%) than bottom (46%) schools
  • Luo (49%) than Kisii (47%) students
  • Those who had never (50%) than those who had ever (47%) played sex.
	Results are consistent with research in other countries.

• There were statistically significant differences in agreement with the statement "A girl means no when she says no." Agreement was higher for more:
  • Girls (54%) compared to boys (44%)
  • Students from top (54%) than bottom (48%) schools
  • Luo (50%) than Kisii (48%) students
  • Those who had never (51%) than those who had ever (47%) played sex
	Results are consistent with research in other countries.

• There appears to be considerable confusion about the meaning of the statement, "I shall be a virgin when I leave secondary school." 54% of students who had already played sex and 53% who had not yet played sex agreed with this statement.	The meanings of "playing sex," "avoiding sex," "abstaining," and "being or remaining a virgin" need to be explored qualitatively.
• Somewhat more students (57%) felt they had no or little chance of getting AIDS than those who rated their chance as moderate or great (43%). In multivariate analysis, only ethnicity had a statistically significant effect on these results with Luo youth rating their chances as moderate or great more often than Kisii youth (44% and 40% respectively)	

Sexual Activity

Summary of Results

Individual Questions

- 10 questions were asked about sexual activity.
- 53% stated they had played sex.
- Of those who had played sex (see Appendix B for breakdowns by gender and age):
  - The median first age was 11.7 years
    - The average age of first intercourse appears to be decreasing with 28% of 11 year olds initiating intercourse by 11 years of age, 16% of 15 year olds and 12% of 18 year olds by this same age.
  - 29% had played sex in the last 3 months.
    - For boys, older students were significantly more likely to have played sex in the past 3 months than younger students. For girls there was no statistically significant difference across ages.
  - 34% had been forced to play sex
  - 33% of boys and 25% of girls reported using a condom the last time they played sex.
    - Significantly more older than younger boys reported using a condom at last intercourse. This was more pronounced for boys than girls.
    - The only statistically significant difference between reported use by boys and girls was for those 19 years of age and older where more boys (55%) than girls (35%) reported condom use.
  - 38% had at some time feared they had an STI
  - 20% had at some time feared they were or had made someone pregnant
  - 36% reported they had refused to play sex
  - 34% reported they had not gone somewhere because they were afraid someone would ask them to play sex.

Questions & Implications

This young age reflects the young age of the majority of students.

Findings of note:

- Most are not currently sexually active

- These are areas where we can anticipate an improvement at follow-up.

Summary of Results **Questions and Implications**

Multivariate Analysis

- Multivariate analyses were used to determine which of gender, age, ethnic group, academic standing of school, SES and whether students were from target or control schools significantly influenced how students responded to each of the questions on sexual activity.
- Multivariate analysis controls for the effect of all factors while examining the influence of each one independently.
- Logistic regression was used for all but age of first intercourse, which was tested using ordinary least squares (OLS) regression.
- Statistically significant influences on sexual activity, based on logistic regressions:
  - Girls were more likely than boys to report being forced, refusing to play sex, and not going somewhere to avoid sex.
  - Older students were more likely than younger students to report each activity.
  - Kisii students were more likely than Luo students to have played sex, to have played in the last 3 months, to have feared pregnancy and to have refused to play sex.
  - Students from bottom academic schools were more likely than those in top schools to have played sex, to have played in the last 3 months, to have feared an STI or pregnancy and for both boys and girls to have used a condom at least sex.
  - Students of lower SES were more likely to have feared a pregnancy.
  - Students in target were more likely to report not going somewhere to avoid sex than those in control schools.

- These results provide preliminary insights into factors that influence the sexual activity of youth. The question for the evaluation will be whether and to what extent the curriculum can counteract the factors that are pushing students towards activities that carry higher risks for HIV transmission.

- Of note:
  - having been forced to have sex was influenced only by gender
  - condom use by both girls and boys was only influenced by age and the academic standing of their school.

Summary of Results

- Statistically significant influences on age of first playing sex based on OLS regression:
  - The most important influence was current age of students. With each additional year of age, students reported initiating sex on average 7 months later.
  - Students from bottom academic schools first played on average 6 months younger than those from top schools.
  - Luo students first played on average 5.6 months younger than Kisii students.
  - Students from control schools first played on average 2.5 months younger than those from top schools.
  - Once these factors were taken into consideration, there was no significant difference between boys and girls or between students from lower and higher SES homes.

Questions and Implications

- The age effect is, in part an artefact of the issue under investigation.
- This is consistent with results from other countries.
- This is a small difference, but will have to be controled in post-programme analysis.

Condom Use, Knowledge and Attitudes

Summary of Results

Three questions were asked about condoms:

- Do you think people can prevent themselves from getting infected with HIV and AIDS if they: use a condom correctly when playing sex?
- If you have sexual intercourse you should use a condom to protect yourself from becoming infected (agree-disagree).
- Using condoms can prevent HIV infection (agree-disagree)

Correlations between responses to these 3 questions were weak, ranging from .24 to .32.

- For boys there was no statistically significant relationship between condom use and responses to any of these questions, i.e. neither knowledge nor attitude toward condoms as tapped in these questions is significantly related to condom use by boys. (see Table 3 in Appendix B)
- For girls:
    - Those who agreed or responded 'yes' to any one of these questions were significantly the most likely to report having used condoms in the past 3 months.
    - Those who were unsure or didn't know the response to any one of these questions were significantly the least likely to report having used condoms in the past 3 months. (see Table 3 in Appendix B)

Questions and Implications

This suggests that the 3 questions are tapping different knowledge or attitudes.

For boys, neither knowledge nor attitudes toward condoms are good indicators of likelihood to use condoms. This is consistent with research globally.

For girls, knowledge and attitude toward condoms have a statistically significant though weak predictive influence on condom use.

Multivariate Analysis

Condom use was logistically regressed using exploratory stepwise procedures on: age, ethnicity, SES, whether from an academically top or bottom school, age of first intercourse, intercourse in the past 3 months, having ever been forced to have sex, ever having feared had an STI, and responses on 3 condom knowledge/attitude questions.

Logistic regression reports results as odds, i.e. when someone is as likely to do something as not to do it (e.g. use a condom), the odds are 1.0. The effect of predictors on condom use are reported as how much of an increase (or decrease) there is in the odds of using condoms at last intercourse.

Summary of Results

- For boys, the statistically significant predictors, rank ordered from those with strongest to weakest effect on likelihood of having used a condom at last intercourse were:
  - Having feared had an STI
  - Having been forced to engage in sex
  - Ethnicity (Kisii more likely than Luo to use condoms)
  - Older students
  - Older at first intercourse
- For girls, the statistically significant predictors, rank ordered from those with strongest to weakest effect on likelihood of having gotten partner to use a condom at last intercourse were:
  - Having feared had an STI
  - Knowing that correct use of a condom can prevent HIV-AIDS
  - Having engaged in sex in the past 3 months
  - Older at first intercourse.

Questions and Implications

Having feared or experienced an STI in the past is the strongest predictor of condom use, raising the odds of having used a condom at last intercourse by 2.2 for boys and 1.9 for girls (i.e. doubling the odds).

For girls, knowledge about condoms increased the odds of having used a condom at last intercourse by 1.3.

SUMMARY

What is the likelihood of uptake of PSABH Curriculum?

Results from the pre-programme student survey support the conclusion that students are ready to participate in and take-up the curriculum messages of PSABH. This conclusion is based on student responses to questions about HIV/AIDS teaching that already takes place in the schools. Most students find what they have learned useful, but many also find it boring or difficult to understand. The active, participatory pedagogy encouraged in PSABH teacher training is designed to combat boredom and to make lessons easier for students by engaging them in the learning process. A considerable number of students also find their lessons 'shameful,' a factor that will need attention since it may make it difficult for students to engage with the material or to transfer what they have learned in school to their daily lives.

What can PSABH accomplish?

- Use of non-classroom teaching & learning
  - This use is currently low
  - Given the PSABH focus on non-traditional, out-of-classroom pedagogy, this is an area that can be expected to change.
- Knowledge increase
  - Knowledge is currently low among students. While knowledge alone is not sufficient to influence behavior, knowledge is a necessary prerequisite to behavior change. Good quality school-based programmes have consistently demonstrated their ability to influence knowledge and it is expected that PSABH will do likewise.
  - The most important influence on knowledge is the existing lessons in sex and HIV/AIDS – this supports the expectation that PSABH will have a major impact on knowledge.
- Other important areas that can be improved through PSABH:
  - Addition of 'using condoms' to the list "most important lesson learned"
  - Improvement in personal agency related to sexual activity
  - Increased reporting of condom use among those who are sexually active
  - Fewer students initiating sexual activity during and following introduction of PSABH programmes in schools.
  - Increase in the numbers who report declining to engage in sex and avoiding places because they may lead to sex.

What are the potential barriers to success?

Three potential barriers are apparent from survey results:

- Shame – a sizable number of students categorized the lessons that already exist in the schools as 'shameful.' Feelings of shame can impede students' ability to actively engage with the curricular materials, to inquire into areas that are confusing or difficult, to communicate with others (including their sexual partners), or to apply lessons in their daily lives.

- Contradictory or alternative messages from churches, the media or other sources. A sizable number of students report going to church and that God plays an important role in their lives. A large proportion also report that radio and television have been important sources of information about HIV and AIDS. If messages about HIV and AIDS conveyed through any of these sources are not consistent with those coming from schools, students are likely to experience conflict and incongruence which can interfere with taking-up the prevention messages advocated in the curriculum.
- Meanings of 'virginity,' 'playing sex,' 'abstinence.' There was a clear indication in survey results of confusion around the meanings of these terms. Since the curriculum is conveyed primarily through words, such confusion may result in unintended messages being received by the students.

What are the issues to pursue in qualitative interviews?

- Meanings of concepts like 'virginity,' 'playing sex,' 'abstinence.'
- Communication
  - There are strong arguments made in the literature that parents and children do not communicate about sexual matters. However, a sizable number of girls claimed they were most likely to talk to their mothers about HIV/AIDS. The nature of parent-child communication, or adult-child communication and how young people learn about sex needs further exploration.
  - Shame about sexual matters and/or HIV/AIDS can interfere with communication between partners as well as between children and adults. The extent and nature of shame and its effect on communication needs further exploration.
  - Communication between young men and women related to sexual interaction should be explored – there are several indicators in survey results (e.g. responses to the question about a girl meaning no when she says no) that this needs to be better understood as a probable influence on risk-taking and risk-reduction.
- How condom messages relative to abstinence messages are received, understood and acted on.
- Factors influencing condom use. Other research suggests the following have a strong influence (much stronger than knowledge about condoms): ability and existence of communication about condoms, access to condoms, perceived ability to use and negotiate condoms, absence of partner resistance, presence of partner agreement to use condoms.
- There are significant differences between Luo and Kisii youth on many of the areas covered by the survey. The nature and potential cultural foundation of these differences need to be explored.

What are the issues for data analysis (and potential further inquiry)?

- A decision needs to be made about what will be taken as indicators of programme success.
  There are 2 groups of students with somewhat different programme goals for each.
  - For students who have not yet initiated sexual activity reasonable goals are

to see continued postponing and to provide them with the attitudes, knowledge and skills both to continue postponing sexual activity, and once they begin, to do so in a way that reduces their risk of HIV infection.
    - For students who have already initiated sexual activity the goal is to provide them with the attitudes, knowledge and skills that will help them reduce their risk of HIV infection.
- For sexually inexperienced students programmes are considered successful if there are significant increases in:
    - Attitudes supportive of postponing sexual activity
    - All areas of knowledge
    - Ease of talking to others
    - Refusing sex, avoiding places where pressure for sex is likely to occur

  And a decrease in the proportion of students reporting sexual initiation during and immediately following the programme.
- For sexually experienced students programmes are considered successful if there are significant increases in:
    - Knowledge and attitudes related specifically to condom use and sexual partnering
    - Knowledge related to HIV testing
    - Knowledge related to the effect of STIs on HIV susceptibility
    - Attitudes related to resisting sexual activity under certain situations and toward respecting partners' decisions
    - Refusing to engage in unwanted sex, avoiding places
    - Condom use
- Methodological and statistical issues that need to be addressed:
    - The sample of students is large.
        - This facilitates detailed analyses and consideration of specific subgroups of students.
        - This makes statistical significance easy to achieve with very small differences or effects. This is seen in some of the results reported here.
            - A decision must be made about how large a difference or effect is substantively meaningful so that this criterion can be used in conjunction with statistical significance in forming conclusions.
    - Students cover a very wide age range with small numbers of students at the extremes. Where students at the extremes are different from those clustered in the middle they will skew the results. However, their small numbers make it impossible to draw conclusions about students of their age. It is desirable to eliminate students at age extremes from the sample to strengthen the power of the conclusions.
    - There are consistent and statistically significant differences which warrant consideration of separate analyses for:
        - Luo and Kisii students
        - Top and bottom schools
    - The measured created for SES should be examined for local relevance and a decision should be made about potentially creating two or three (e.g. low,

medium and high) SES groups to increase the relevance and interpretability of results. These groups must reflect the local situation.

- A measure should be created to indicate the 'wealth' of each school/community using observations recorded by moderators. This must be locally appropriate.
- Consideration should be given to eliminating knowledge questions with an unclear correct answer from the survey.

APPENDIX A

Knowledge Scale (Student)

The following 22 items were combined into a summative scale to produce a score that represented the percentage of correct responses. In each case, correct answers were scored as '1' and incorrect answers, answers of 'I am not sure' and missing answers were scored as '0.'

Below is a list of actions people have claimed can reduce the chances of becoming infected with HIV/AIDS. Which do you believe can reduce the chances of infection?

Statement	Correct Answer
Avoid having sex	Yes
Don't wear the clothes of someone who is sick with AIDS	No
Have fewer sex partners	Yes
Avoid having sex with thin people	No
Don't share razor blades	Yes
Avoid sharing a plate of food with an infected person	No
Always use a condom correctly when playing sex	Yes
Be faithful to one uninfected partner	Yes
Avoid being bitten by mosquitoes or other insects	No
Make sure any injections are done with a clean needle	Yes
Avoid shaking hands with someone sick with AIDS	No

Below are some things people have said about HIV and AIDS. Tick whether you agree or disagree with each statement.

Statement	Correct Answer
If you have sexual intercourse you should use a condom to protect yourself from becoming infected.	Agree
If someone thinks they could be HIV positive, then they should go for a test.	Agree
Primary school children can get HIV	Agree
Using a condom can prevent HIV infection.	Agree

Here are some statement about people infected with the AIDS virus (HIV) Please tick each as 'true' 'untrue' or 'not sure'

Statement	Correct Answer
They can test negative after seeing a traditional healer.	Untrue
They can test negative after sincere and devout prayers.	Untrue
They can test negative in the window period	True

Here are some statements about how the presence of a sexually transmitted disease/infection (STD/STI) increases the risk of HIV being transmitted. Please tick each as 'true' 'untrue' or 'not sure'

Statement	Correct answer
Having an STD shows poor hygiene	Untrue
STDs often cause wounds or sores that make the virus easier to transmit.	True
An untreated STD can automatically turn into HIV/AIDS.	Untrue
The body's resistance to other diseases is reduced by having an STD.	True

Items surveyed but not included because of lack of clarity on correct answer:

Eat a good diet
Avoid circumcision
Avoid kissing
Avoid deep or wet kissing
Promote circumcision
They can test negative from human error
Because the person suffering from STD often plays sex more.

APPENDIX B
Details of Sexual Activity by Age and Gender

Table 1: Age of first sexual intercourse by current age

	Current Age							
	11	**12**	**13**	**14**	**15**	**16**	**17**	**18**
N=	94	617	1238	1692	1901	1259	693	245
Have played sex	28%	34%	42%	48%	53%	61%	67%	70%
Age by which first played sex	Cumulate Percent							
10	21%	18%	16%	16%	14%	12%	12%	8%
11	28%	24%	21%	19%	16%	14%	14%	12%
12		34%	31%	30%	26%	26%	29%	25%
13			42%	40%	35%	34%	38%	34%
14				48%	40%	44%	48%	42%
15					53%	56%	56%	51%
16						61%	63%	58%

Table 2: Percent Reporting Various Sexual Activities and Experiences by Gender and Current Age

Gender	**Boys**					**Girls**				
Age	**≤12**	**13-14**	**15-16**	**17-18**	**≥19**	**≤12**	**13-14**	**15-16**	**17-18**	**≥19**
N=	309	1374	1677	627	117	402	1556	1483	311	47
Ever played sex	39%	47%	60%	70%	68%	32%	45%	56%	68%	68%
Played sex in past 3 mos.	28%	28%	32%	34%	47%	23%	28%	29%	34%	28%
Used condom last time	23%	31%	36%	44%	55%	25%	30%	36%	43%	35%

Table 3: Percent Who Used Condom at Last Intercourse by Responses to Condom Knowledge and Attitude Questions

Gender	You can prevent infection by using a condom correctly when playing sex			If you have sexual intercourse you should use a condom to protect yourself from becoming infected			Using condoms can prevent HIV infection		
	Yes	DK*	No	Agree	Not sure	Disagree	Agree	Not sure	Disagree

Boys	33%	34%	32%	31%	34%	33%	33%	29%	31%
Girls	28%	21%	21%	29%	18%	24%	28%	21%	23%

* don't know

Results not significant for boys but significant at $p \leq .05$ for girls in each case.