PRIMARY SCHOOL ACTION FOR BETTER HEALTH

6-MONTH EVALUATION VOLUME I of II

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EXECUTIVE SUMMARY

HIV/AIDS in Communities

AIDS is very real in the lives of the communities participating in this programme. By February 2003, 80% of teachers and over 50% of pupils reported that they knew someone in their community who had died of or was living with AIDS. Multiple groups, including churches, have risen to the challenge of combating AIDS by bringing HIV/AIDS prevention programming to all communities (target and control) participating in this evaluation. The main HIV prevention messages in the communities promote abstinence prior to marriage and faithfulness to one partner. From in-depth interviews it was evident, however, that failure to abide by these risk-reducing behaviours was not only common, but expected. While condoms were available to youth and adults in 71% of communities, there was strong resistance to teaching youth that condoms can be an effective way of reducing the risk of transmitting HIV. This resistance was seen in the prevailing silence or provision of false information designed to discourage the use of condoms by youth.

HIV/AIDS Activity in the Schools

PSABH trained teachers moved quickly to train their colleagues and to implement HIV/AIDS programming in their schools. Training of colleagues most often took place in staff meetings, typically of about 2 hours in duration. The topics most likely to be covered were those relating to theoretical teaching approaches, such as Infusion and Integration and least likely to be practical teaching, such as activities on life skills and living values and communication approaches.

Teachers expressed readiness to teach about HIV and AIDS and felt they could produce a change in pupil behaviours. They also, however, reported feeling overwhelmed by barriers and difficulties to such teaching. While PSABH training was important to overcoming these barriers, some still remained. This was particularly the case in poorly resourced schools and in schools where pupil academic performance was weaker. The barriers to programme implementation reported in control schools were most often related to lack of training while in target schools these were teaching difficulties (e.g., insufficient time, scheduling difficulties).

Target schools made significant gains over time in implementation compared to control schools. This was evidenced in the identification and use of more HIV/AIDS teaching resources and the diffusion of HIV/AIDS teaching across the curriculum. By contrast, control schools accessed fewer resources and were more likely to concentrate HIV/AIDS teaching in Home Science. Target schools were also more likely to have taken up some of the more innovative approaches encouraged in PSABH training such as organizing a health club and question box.

Factual and behaviour change messages were evident in all schools with little difference between target and control schools in the content of these messages. Messages, however, were significantly more likely to be found in work produced by pupils and teachers in target than in control schools.

Overall, pupils rated the HIV/AIDS programming as useful and helpful. In focus group discussions pupils cited health clubs and questions boxes as particularly desirable initiations; however, the extent to which these initiatives remained in place over time was uncertain.

Changes in Pupil Knowledge, Attitudes and Behaviours

Knowledge

There was no statistically significant change evident in pupil knowledge in either control or target schools. This suggests that something was interfering with improvement in knowledge in all communities and that the PSABH programme was unable, in this short time period, to counteract this effect.

In further analysis, knowledge was found to be higher and there was an improvement in knowledge in schools with: higher teacher/pupil ratios; predominantly Kisii pupils; higher scores on HIV/AIDS programme implementation; higher ratings by pupils of the practical usefulness of the programme; and in communities where more churches were holding meetings on HIV and AIDS

Communication and Pursuing Information

At the beginning of the programme, all pupils expressed a desire for more information and communication about HIV/AIDS. At the 6 month evaluation, pupils in target schools compared to those in control schools reported a greater increase in communication with others and a greater number of ways in which they were pursuing information about HIV and AIDS. Pupils in target schools also relied more on schools and less on other sources for information about HIV and AIDS. Overall, school-based programming appeared to develop in pupils a motivation to pursue information on their own and to talk to family and community members about HIV/AIDS.

Modes of Prevention

Teachers had a variety of sources of information about prevention teaching made available to them. These included texts and guidelines from the Ministry of Education, Science and Technology and additional books and resources provided as part of PSABH training. While the MoEST resources focused on abstinence, PSABH training provided teachers with information on the full complement of prevention approaches included in the ABC and D (**A**bstain, **B**e faithful, use a **C**ondom, treat **D**iseases) approach.

Abstinence

Teachers held true to the community focus on abstinence as the only acceptable method of prevention. The main tactic used to reinforce the importance of abstinence was fear, i.e. if you don't abstain you will die of AIDS.

Despite this singular focus, pupil awareness that 'avoiding sex' was a way to remain safe from HIV did not increase over the course of the programme. Commitment to abstinence and confidence in an ability to act on this commitment, however, were present in a large proportion of pupils. At the same time, they also described sexual activity as beyond their control, citing multiple factors which pressured or forced them to play sex. In the face of these pressures, pupils asked for more concrete reasons for abstaining (i.e. if you abstain you can continue with your education and get a good job) and expressed a desire to be taught specific strategies for resisting the forces and pressures that propelled them to play sex. While teachers felt confident that they were providing pupils with the tools they needed to remain abstinent, pupils expressed a need for more information and practical strategies for remaining abstinent.

There was evidence that significantly fewer pupils who completed surveys at the 6 month evaluation point had initiated sexual activity compared to pupils who completed surveys prior to PSABH programming. This decrease was greater for girls than boys and was evident in both control and target schools. The absence of a significant difference between control and target schools in sexual initiation makes it impossible to credit this change specifically to PSABH. In further analysis, however, communication and pursuit of information about HIV and AIDS were found to be the main factors influencing the likelihood of sexual initiation. Since communication and pursuit of information were greater in target than control schools, the analysis demonstrated that these were the routes of PSABH's influence on sexual initiation.

It was evident from evaluation results that changing behaviours of those who were already sexually active was difficult. The likelihood that those with sexual experience engaged in recent sexual activity was not influenced by either personal or school factors, by perceptions of pressure or force, or by the presence of HIV/AIDS programming in the school or community.

Condoms

Teachers continued to struggle with the issue of condoms, not knowing how or if they should talk about them to pupils. Based on the observations of zonal inspectors, there was, however, more evidence that condoms were spoken of in target than in control schools. When zonal inspectors provided examples of how the questions that pupils asked about condoms were answered, there was some indication that there was a greater variety of responses in target than in control schools. The content of messages delivered to youth, however, was most often negative with the apparent intention of discouraging condom use.

Pupils were aware that their teachers were struggling over what to tell them. They provided examples of contradictory and false information that continued to circulate in their schools and communities. In the face of such contradictory information, they looked to adults for the "truth," reasoning that this was something, which they needed to know in order to protect themselves in the future. While schools had difficulty providing information about condoms, there was a hint that more positive messages about condoms might be coming from sources external to the school (i.e. older youth and community members). Pupils with sexual experience appeared to be better able than those who were not yet sexually active to access or develop knowledge and attitudes supportive of condom use.

Generally, there was no significant change in condom use in either control or target schools with the exception of a decrease in the percentage of control school girls who reported using a condom at last intercourse at the 6 month compared to the pre-programme data collection.

Overview of Effect of PSABH on Knowledge, Attitudes and Behaviour

The effect of PSABH on pupils' knowledge, attitudes and behaviours related to HIV and AIDS is complex. PSABH has a **direct** and statistically significant effect on the uptake of HIV and AIDS programming in schools with ample evidence that target schools have more programming, more diverse programming, and more diffused programming on HIV and AIDS than do control schools. The effect of PSABH on pupil knowledge, attitudes and behaviours related to HIV and AIDS is primarily **indirect,** operating through school programming. Thus: (1) target schools

have more programming in place than do control schools; (2) schools with more programming in place generally show better results in pupil knowledge, attitudes and behaviours; consequently, (3) PSABH training influences pupil knowledge, attitudes and behaviours through its influence on programming in the schools.

INTRODUCTION

AIDS has devastated communities in much of sub-Saharan Africa. Kenya has not been immune to these effects. Government and non-government organizations alike have focused their efforts on finding ways to reduce the spread of HIV and help communities deal with the presence of large numbers of AIDS-affected individuals. Many public health advocates and researchers have pointed out that school-based programming is a necessary cornerstone to addressing HIV and AIDS (Stover, 2002).

Primary School Action for Better Health (PSABH) is an HIV/AIDS prevention programme being implemented by the Centre for British Teachers (CfBT) with funding from the Department for International Development (DFID). PSABH is a large, multifaceted endeavor that includes community sensitization, sensitization and negotiation of programme and evaluation components with provincial directors of education and other representatives of the Ministry of Education, two week-long training sessions with teachers and community representatives, a week-long training session with peer supporters, training of zonal inspectors, provision of book boxes to each participating school, publication of a newsletter and FAQ booklet, and organization of competitions between schools. To date the programme has been implemented in over 1500 schools with 160 schools in Nyanza Province and 60 in Rift Valley participating in its evaluation. The monitoring and evaluation is equally multifaceted and includes repeated surveys of teachers and pupils, in-depth interviews with teachers and community representatives, focus groups with pupils, and brief information-gathering survey tools and pregnancy data-forms completed by zonal inspectors during their school visits. The University of Windsor, Ontario, Canada designed the monitoring and evaluation and is analyzing the data, which are collected by zonal inspectors and by staff at Steadman Research Services Incorporated.

This report uses data collected in two waves (prior to teacher training and 6 months after full training) in Nyanza Province. Teachers and pupils completed surveys; teachers, pupils and community representatives participated in interviews or focus groups; and zonal inspectors collected information about school-girl pregnancies and completed school and community responsiveness survey. Collectively these provided a profile of how PSABH is working, the effects it is having, and the factors which influence these effects.

The report has 2 Volumes: Volume I includes the following chapters:

- Overview of Methodology
- Community and School Profiles
- HIV/AIDS Activity in the Schools
- Knowledge
- Communication and Pursuing Information
- Main Modes of Prevention: Abstinence
- Main Modes of Prevention: Condoms
- Remaining Issues
- Conclusions
- Appendix A which includes details of research and evaluation methods
- Appendix B which contains data tables to support results provided in the main body the report

Volume II includes:

- All survey and interview instruments used in collecting data
- Coding manuals that provide details of how scalar and composite measures were created

OVERVIEW OF METHODOLOGY

The objective of this section is to provide sufficient information about the research and evaluation methodology to understand the foundation for the evaluation results. Full details of the methodology are provided in Appendix A. In addition, copies of all data collection instruments and codebooks for data transformation are contained in Volume II.

Monitoring, Research and Evaluation Design

A quasi-experimental design is being used in programme evaluation. One hundred and sixty schools (80 target and 80 control) were selected in Nyanza using multi-stage stratified, disproportionate random sampling. Short-term evaluation results were produced using data collected in these schools at three time points. Table 1 outlines the sequence of activities relevant to this report.

Table 1: Sequence of Activities

Date	Activity	Details
November 2001	Data collection – wave 1	Teachers and Pupils in 80 control and 80 target schools complete self-completion surveys (TSC and PSC respectively).
March 2002		Interviews and focus groups conducted in 8 control and 8 target schools & communities. Zonal Inspectors collect pregnancy data in 80 control and 80 target schools.
April 2002	Training	Teachers and community representatives from 80 target schools complete Training Course A.
August 2002	Interim data collection and training	Zonal Inspectors complete School (SRS) and Community (CRS) Responsiveness Surveys in 80 target and 80 control schools & communities. Teachers and community representatives from 80 target schools complete Training Course B.
December 2002	Training	Peer supporters and teacher advisors from 80 target schools complete training.
February 2003	Data collection – wave 2	Teachers and pupils in 80 control and 80 target schools complete self-completion surveys (TSC and PSC) and interviews and focus groups are conducted in 4 target communities.
March 2003		Zonal Inspectors collect pregnancy data in 80 control and 80 target schools.

Unanticipated Events

Three unanticipated events influenced programme implementation and evaluation. First, not all target schools sent representatives to training and some control schools found ways to attend training. In addition, between the end of Course B training and wave 2 data collection, schools experienced a lengthy teacher strike in October 2002. Implementation of PSABH stopped during the strike and it is questionable whether it was taken-up again before the end of 2002 since schools had to give priority to preparation for December KCPE exams once classes resumed.

Finally, in January of 2003, school fees were eliminated resulting in an influx of a large number of new pupils. This had a major impact on schools in this project. Over 2000 pupils in standards 6 and 7 who completed surveys in February 2003 reported that they had not been in school in 2002. In addition, the range of ages of pupils in these grades expanded by 6 years.

In consultation with Mary Gichuru and Janet Wildish of C*f*BT, it was decided that because of these events:

(1) Schools would be reassigned to target and control groups based on participation in Courses A and B. This resulted in the reassignment of 5 control and 3 target schools for a final sample of 82 target and 78 control schools.
(2) The pupil sample analyzed at wave 2 would be restricted to those who had attended school during 2002.
(3) Only pupils between the ages of 11 and 16 years at the time of data collection would be included in analyses.

Data Handling

Steadman Research Services Incorporated conducted surveys with pupils and teachers, interviews with teachers and community representatives and focus groups with pupils. They entered all survey data – including School and Community Responsiveness data and pregnancy data –into SPSS databases and translated and transcribed interviews and focus groups. All data and transcripts were transmitted to the University of Windsor for analysis. SPSS was used in survey analysis and Scolari N5 and N6 for analysis of interviews and focus groups.

Measurements

Two sets of survey measurements were used in analysis. The first set consisted of direct responses of pupils and teachers to questions on surveys. The second consisted of scalar and composite measures created by combining responses to clusters of questions dealing with the same topic. Before creating scalar or composite measures, clusters of questions were tested to ensure pupils and teachers were responding to questions in a way that justified combining them.

Data Analysis

Survey Data

There were three main steps in the analysis of survey data:

(1) Data checking to verify the validity and reliability of data.
(2) Chi-square and analysis of variance to examine target/control differences and changes between wave 1 and 2 in individual pupil and teacher responses to survey questions. All analyses were run three times: for all pupils, comparing results for boys and girls, comparing results for pupils with and without sexual experience. Where there are significant differences in results by gender or by sexual experience, these are noted in the body of this report.
(3) Hierarchical multivariate regression analyses to develop a profile of the uptake of PSABH in schools, factors which influenced greater or lesser programme implementation, and the influence of school uptake on knowledge, attitudes and behaviours. These analyses used aggregated measures from the PSC and TSC together with measures from the SRS, CRS and pregnancy data combined in a school-level database. Analyses were conducted for schools rather than individuals. These

regression analyses provided information about how groups of factors collectively influenced each outcome of interest as well as the relative importance of each factor when it is considered as part of the group. Since schools, teachers and pupils are influenced by many factors operating simultaneously, regression provided a closer approximation to how these influences were exerted than analyses that looked at one factor at a time.

(4) Identification of 'premiere' or 'best' schools based on their performance in the top 10% of schools on the largest number of behavioural outcome indicators. Profiles of these schools were then created on all outcomes, programme implementation and school and community characteristics.

(5) Individual level analyses were most often based on the following numbers unless otherwise noted:
- 3420 target and 3381 control pupils at wave 1
- 3133 target and 3266 control pupils at wave 2
- 218 target and 222 control teachers at wave 1
- 154 target and 160 control teachers at wave 2

Textual Data

Analysis of textual data was facilitated using N5 and N6 Software. For wave 2 qualitative data analysis focused on two areas. First, themes identified in analysis of wave 1 data were re-examined using wave 2 data to assess whether there had been any changes. Second, conclusions drawn based on the survey data were examined in light of what pupils, teachers and community members were saying. These examinations provided confirmation and textual illustrations of what was found in survey results or alternative interpretations and challenges of the survey results. Details on the steps taken in the analysis of textual data are described in Appendix A.

Triangulation

All forms of data were combined in developing the analysis and conclusions in this report.

Presentation of Results

For ease of comparison, data comparing target with control and pre-programme (wave 1) with post-programme (wave 2) results are presented as bar graphs in the body of the report with tables that accompany graphs located in Appendix B. Graphs and tables are numbered alike (i.e. Figure A in the body of the report uses data from Table A in Appendix B) to facilitate location of the exact numbers that coincide with each graph.

Statistical significance was set at $p \leq .01$ for all tests. This partially compensated for the large sample sizes and number of statistical tests and reduced the likelihood of making a claim of significance for very small or chance results. It should be noted that $p \leq .01$ is still a liberal level of significance that will identify every difference and change that is likely to be of substantive importance.

Using the individual-level data, statistical tests were conducted on the difference between wave 1 and 2 results for target and for control schools and also on the difference in the amount of change between target and control schools. Where differences and changes were significantly different, these are noted on the graphs.

The statistical and numerical results of regression analyses are not as intuitively easy to understand as are percentages and scale scores. Consequently, the text of the report includes only a verbal description of trends found in regressions. Numerical and statistical results are included in Appendix B.

COMMUNITY AND SCHOOL PROFILES

This project was designed to include schools and communities with diverse profiles (see sample procedures in Appendix A). This was to ensure that PSABH was tested in communities that might have different sources/forms of HIV vulnerability, may respond differently to the threat of AIDS, and also to the PSABH programme. The following section will provide a collective profile of the communities and schools in this project and of PSABH teacher training.

Community Profiles

AIDS is very real in the lives of the communities participating in this evaluation. Eighty-three percent of teachers in control, 92% in target schools and over 50% of pupils in both control and target schools knew people in their community who had died of AIDS. Similarly, 70% of teachers in control, 67% in target schools and almost 40% of pupils in both target and control groups knew community members who were living with HIV.

Activities related to HIV were present in a variety of community events and festivals in all but 2 communities included in this study. From responses on the CRS and in interviews, it was evident that the focus of community messages about HIV was to promote abstinence prior to marriage and faithfulness to one partner. In only 1 community were condoms cited as the focus of messages at community events. However, it was also evident from in-depth interviews with community leaders and teachers, that failure to abide by the abstinence and faithfulness prescriptions was common and expected. Despite this, there was profound reluctance to promote condom use. Condoms were, however, available to adults and youth alike in one or more locations in 71% of communities, most typically in clinics and shops.

During wave 1 data collection, churches were found to be highly influential, with their influence often extending to schools, teachers and curriculum. When the activities of churches were considered, it was evident that churches in every community had HIV/AIDS programming. Since different churches approach issues of health, sexuality, personal responsibility, and morality differently, information about the presence and activities of specific denominations was collected in the CRS. Churches clustered into three faith groupings: Roman Catholic, Protestant, and Breakaway or Traditional churches. Breakaway churches are affiliated with mainline Protestant denominations but incorporate traditional beliefs and practices into their teaching and worship. Traditional churches are founded primarily upon traditional beliefs and practices although they may have, at one time, been affiliated with Protestantism or Catholicism. Both Breakaway and Traditional churches, to varying degrees, include significant portions of traditional beliefs, viewpoints, and practices, together with some aspects of Christianity in their teachings and practices. Because of their similarities and small numbers they were treated as one group.

Although all churches had HIV/AIDS programming, the most active were the Mainline Protestant churches. The more churches there were in a community, the more religious programming there was related to HIV and AIDS. The programming across churches did not reflect any difference in 'messages' about prevention. In all cases, abstinence and faithfulness to one partner were the dominant prevention messages. Churches were either silent about or conveyed information designed to discourage the use of condoms by youth. In some cases this

information was blatantly false, or an inversion of the truth, designed to portray condoms in the worst possible light.

School Profiles

It is important to note that there were *no* significant differences between target and control schools on any of the characteristics included in the profile. The majority of schools were:

- Rural;
- Protestant sponsored;
- As likely to have Protestant as Catholic pupils;
- More likely to have Protestant than Catholic teachers; and,
- More likely to have students belonging to the Luo than the Kisii ethnic group with one or the other of these groups predominating in most schools.

In addition:

- The average KCPE scores per school covered a broad range from as low as 18 to as high as 509;
- School resourcing also covered a broad range with teacher/pupil ratios as low as 1 teacher/100 pupils to 15 teachers/100 pupils; and,
- School SES[1] ranged from 40-90.

Community characteristics *did* cluster into set patterns. Thus, schools with primarily Luo pupils were also, on average, of a lower SES, had lower average KCPE scores, and were more likely to be sponsored by a Protestant church. The pupils in these schools, however, were more likely, on average, to be either Roman Catholic or to belong to a Breakaway or Traditional rather than a mainline Protestant church. There was greater diversity and a larger number of churches active in these communities. This was evidenced partially by more meetings and programming about HIV/AIDS within these communities compared to others.

Schools with primarily Kisii pupils did not produce as distinctive a profile, although the majority of pupils were likely to belong to a mainline Protestant church (primarily SDA) and there was less diversity and a smaller number of churches active in the communities. Schools with predominantly Kisii pupils also had, on average, higher teacher/pupil ratios, i.e. they were better resourced in terms of teachers. Schools with predominantly Kisii pupils were not significantly different from schools with pupils from diverse ethnic groups in KCPE scores, religious sponsorship or religion of pupils or teachers.

Teacher Training

At least one PSABH trained teacher completed the wave 2 survey in each target school. All PSABH trained teachers reported that they had undertaken training with their fellow teachers and all non-PSABH trained teachers reported that they had been trained in their schools. There was, however, considerable unevenness in the amount of training present in each school:

- In target schools:
  - 52% of teachers were in schools that had received all 4 components of the training -- Course A, Course B, Peer Supporter Training, and a book box;

[1] Calculated based on structural resources –i.e. windows, doors, floor, walls, roof, and desks. Possible scores ranged from 0-100.

  - 31% were in schools that had 3 of these components;
  - 7% had 2 components; and,
  - 10% had only 1 component
- In control schools:
  - 2% of teachers were in schools that had 3 or more components of the PSABH training;
  - 68% of teachers were in schools that were in the same zone as a PSABH trained school (with the possibility of 'spillover' between schools) or reported that some other group had done HIV/AIDS training in their school; and,
  - 30% of teachers were in schools with no evidence of any training in HIV/AIDS instruction.

Overall, teachers rated the PSABH training positively, with over 60% rating it as interesting, worthwhile, informative, organized, useful and relevant. The only characteristic of training that did not receive at least 60% support from teachers was 'easy to understand.' Only 42% of teachers rated the training as easy to understand.

HIV/AIDS ACTIVITY IN THE SCHOOLS

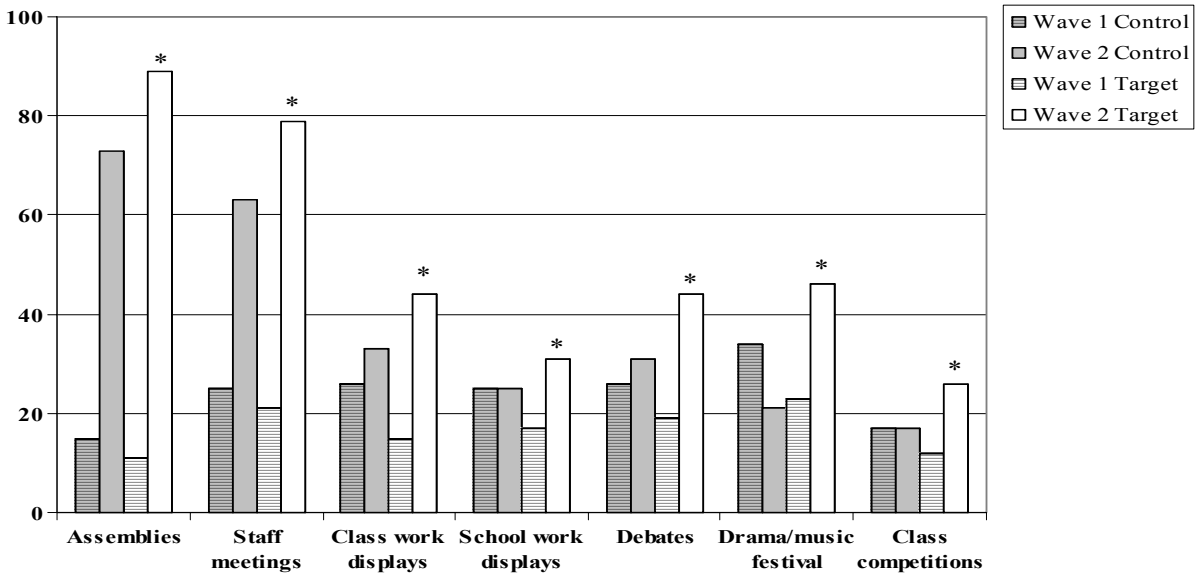
In evaluating a programme it is important to look not only at programme outcomes in terms of potential gains in knowledge, attitudes and behaviours (KAB), but to pay careful attention to implementation of the programme itself, since strong programme implementation is a necessary precondition to any gains in KAB. This is particularly important in short-term evaluation where changes in KAB are, at best, likely to be minimal.

The following section will report on programme implementation at both the individual and school levels. The individual level uses information from teacher and pupil observations of HIV/AIDS programming in their schools and their responses to it. This information was collected in surveys, interviews and focus groups. On the school level information from the school and community responsiveness surveys and data from PSC's and TSC's have been aggregated to provide a picture of programme implementation at the school level. This allows analyses to be done school by school and includes all information that has been collected as part of the PSABH evaluation.

Where is AIDS addressed?

Every school surveyed was doing some form of HIV/AIDS education. There were, however, statistically significant differences in what teachers in control and target schools reported in wave 2. These differences also represented some significant changes from wave 1 (see figure A below). By wave 2, there were significantly more teachers in target than control schools reporting HIV/AIDS was being addressed in every school activity listed.

Figure A[2]: Percentage of Teachers Responding that HIV/AIDS Has Been Addressed in:

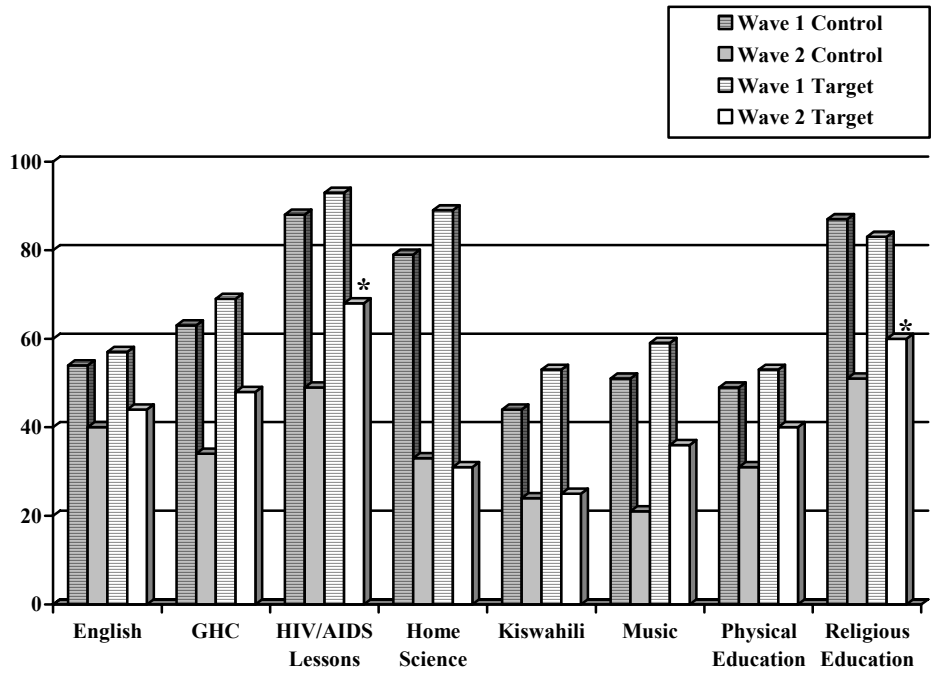


*Increase from wave 1-2 significantly greater in target than control schools at $p \leq .01$

[2] Significance statistics in all figures relate to the comparison of the amount of change from wave 1 to wave 2 in control and target schools. This controls for the relative positioning of control compared to target at wave 1. If there are large gains from wave 1 to wave 2 in both sets of school they are only identified as significant if target gains are greater than control gains.

While almost all teachers said HIV/AIDS was addressed in school assemblies and staff meetings fewer than half cited activities where pupils were likely to be actively involved in learning –i.e. displays, debates, competitions and festivals. The lower level of direct involvement of pupils corresponds to the decrease in reports of teaching about HIV/AIDS in classroom subjects seen in the next graph. This decrease may be related to the disruptions experienced in schools (i.e. teachers' strike and coping with large numbers of new pupils) and subsequent need to focus on the core curriculum. Of note is that the patterns seen in these figures related to where HIV/AIDS is being addressed were evident in both target and control schools with target schools showing greater HIV/AIDS teaching activities than controls at wave 2.

Figure B: For Teachers Who Have Taught Each of the Following Subjects, Percentage

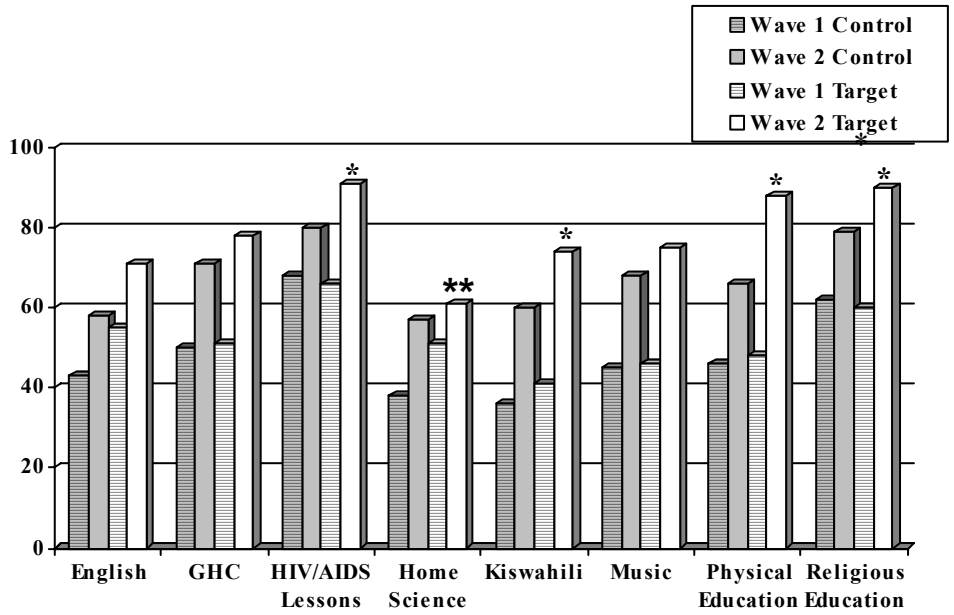


*decrease from wave 1 to wave 2 sig.< in target than control schools at $p \leq .01$

Who Have Addressed HIV/AIDS in:

An encouraging sign was that for teachers who included HIV/AIDS in classroom work, more did so three or more times in the semester. This change was significantly greater in target than control schools for HIV/AIDS lessons, Kiswahili, physical education and religious education. Of note is that teachers increased their teaching about HIV and AIDS significantly more in Home Science in control than in target schools. These results suggest a potential toward greater diffusion of HIV and AIDS lessons in target schools and concentration in Home Science in controls.

Figure C: For Teachers Who Have Taught HIV/AIDS in Each Subject, Percentage Who Have Addressed HIV/AIDS 3 or More Times in:

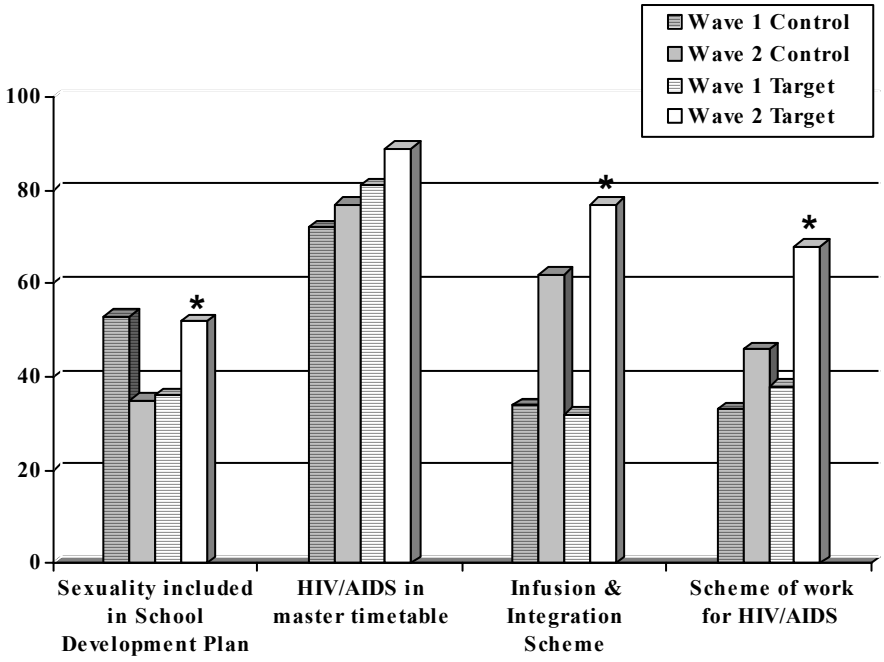


* increase from wave 1 to wave 2 sig. > in target than control schools at $p \leq .01$

** increase from wave 1 to wave 2 sign. > in control than target schools at $p \leq .01$

The pattern seen in teaching was also evident in the presence of HIV/AIDS in pedagogical planning and training. With the exception of placing HIV/AIDS in the master timetable, teachers in target schools moved well ahead of those in control schools.

Figure D: Percentage of Teachers Responding:

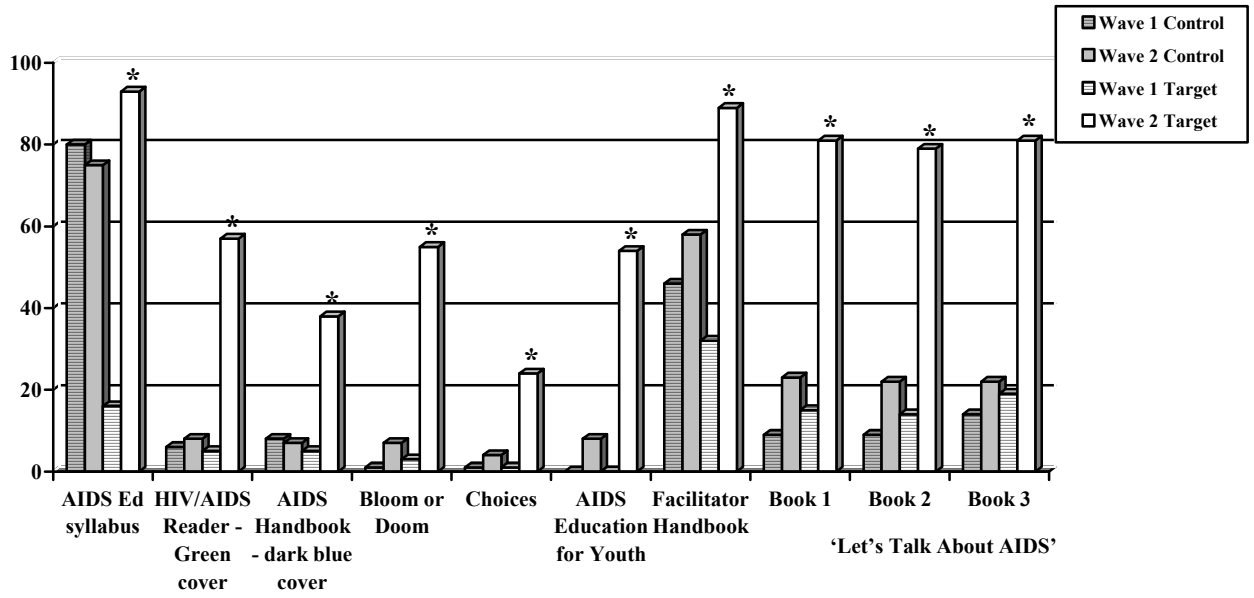


* increase from wave 1 to wave 2 sig. > in target than control schools at $p \leq .01$

Resources

All schools had access to the AIDS Education Syllabus from the MoEST even though not all teachers knew of its availability. Most other resources were provided by PSABH as part of teacher training, as evident in the figure E below.

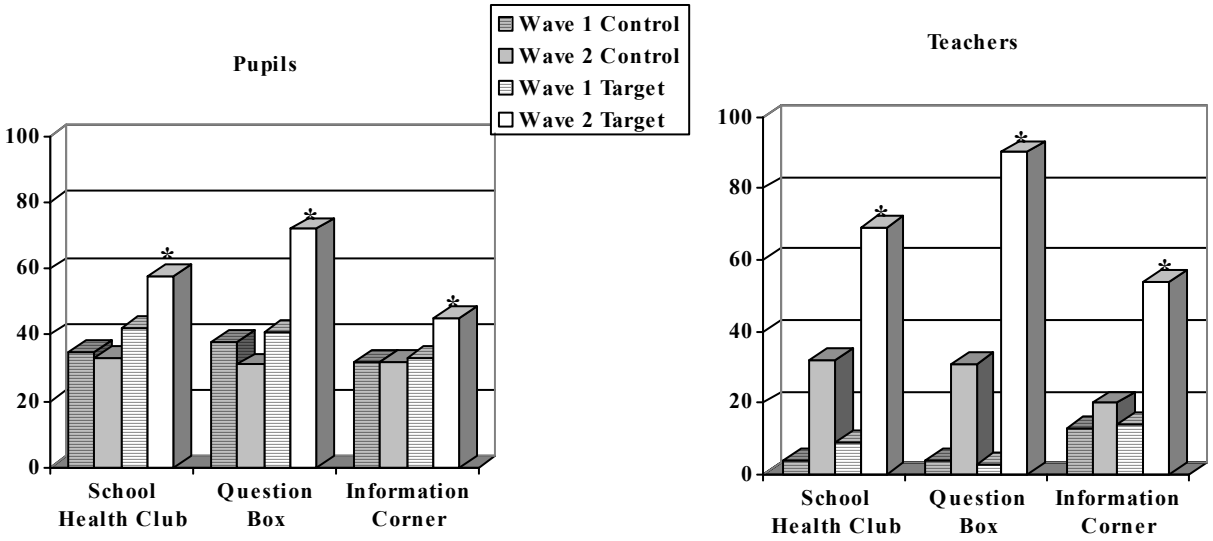
Figure E: Percentage of Teachers Responding That the School Has:



* increase from wave 1 to wave 2 sig. > in target than control schools at $p \leq .01$

The same pattern that is evident for the frequency of teaching about HIV and AIDS in classroom subjects is also evident for the *use* of these resources – i.e. they are used most by teachers in target schools. In addition, teachers in target schools use other resources such as posters, work sheets, storybooks, etc., and access human resources such as TAC Tutors, ZIs, parents, and Ministry of Health workers more than those in control schools. Both teachers and pupils in target schools were also more likely to report having a school health club, question box and information corner (see figure F).

Figure F: Percentage of Pupils and Teachers Who Say Their School Has:



* increase from wave 1 to wave 2 sig. > in target than control schools at $p \leq .01$

Although this is encouraging, the picture becomes less clear when the qualitative data are explored. For example, in qualitative interviews and focus groups two schools mentioned having no Health Club at all while two admitted charging pupils a fee for enrollment.

> *Q: Is there a health club in your school?*
> *No (all)* (Boys8: 305-307).
> *We don't have one* (Girls3: 873).

> *We are supposed to register as members of the club and pay some money so that people from outside the school can be invited to come and talk to us* (Girls4: 465-467).

Question Boxes were spoken of as the most manageable and positive way to address HIV/AIDS. Pupils liked the question box and stated that it was a good way for them to ask questions anonymously.

> *You can ask any question that you do not know so that the answers can help and you do not get into problems* (Girls5: 767-768).

> *You get answers to questions that keep bothering you* (Boys1: 439).

> *The use of a question box, the students found it useful* (Teacher2_M: 141).

However, pupils stated that they would have liked to have more of their questions answered. As was found in the SRS, it was not at all clear from either teacher or pupil interviews whether the question boxes were regularly being used.

They [teachers] *answer a few* [questions] *the rest they leave unanswered* (Girls3: 715-718).

We have a school question box… we haven't used it because of this and that (Teacher4_M: 255-256).

When we started there used to be so many questions but as time went by the questions started reducing (Teacher2_F: 219-220).

It [question box] *was there but they removed it and we do not know why* (Boys8: 192).

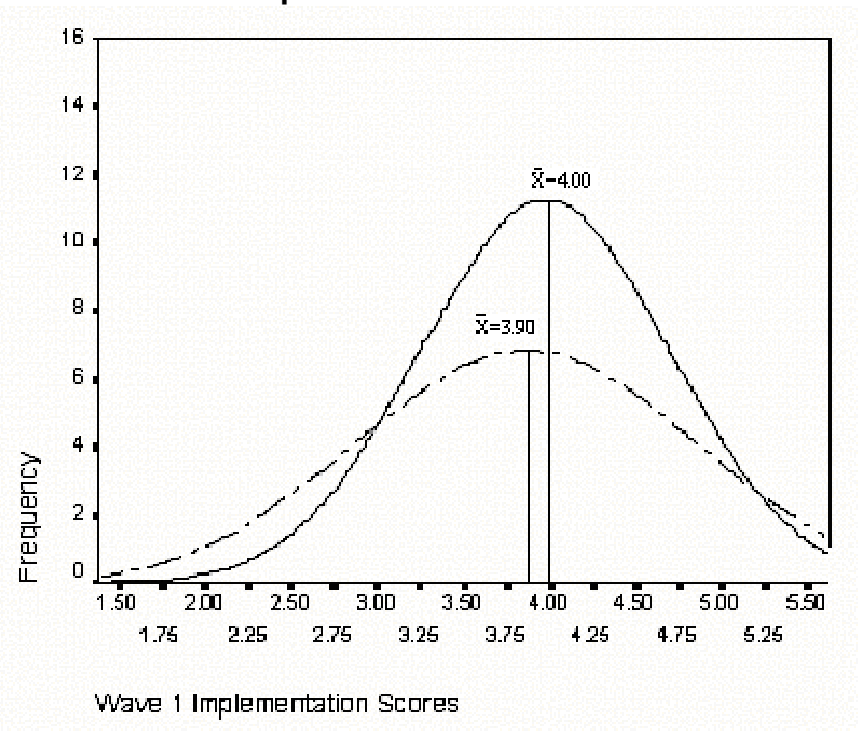
Programme Uptake

Teacher and pupil responses to questions about where AIDS is addressed, AIDS in classroom subjects and resources were combined into two implementation scales (see Appendix A). When scores for target and control schools at wave 1 and wave 2 were compared it was evident that there were significant and substantial gains in programme implementation in target schools.

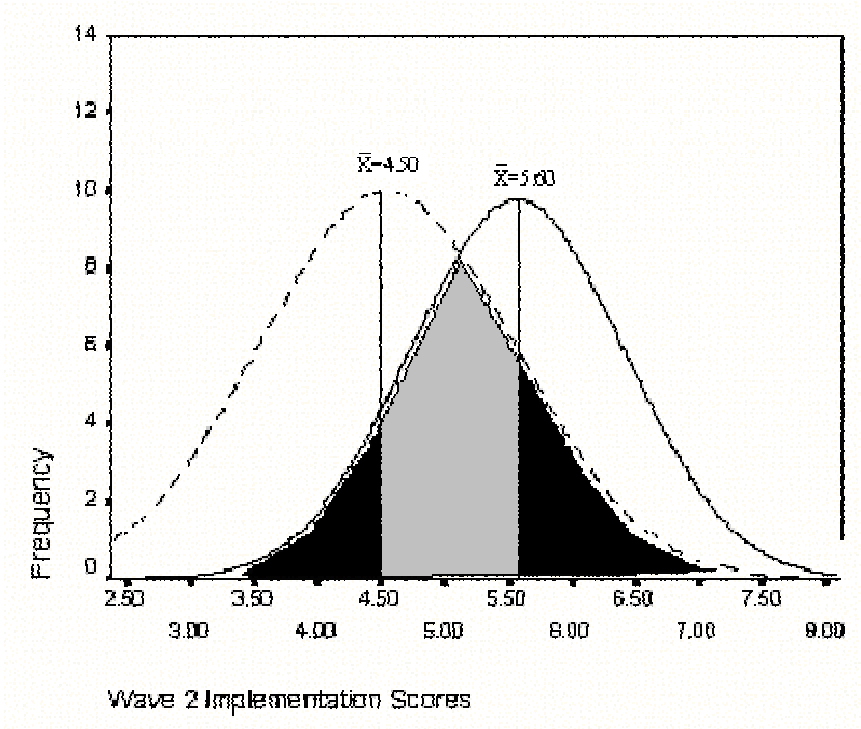
As was evident from reviewing responses to individual questions, these gains reflected either an increase in the HIV content of co-curricular activities, greater use of resources and more frequent coverage of HIV/AIDS in the classroom, or less 'lost ground' in the number of teachers reporting coverage of HIV/AIDS in classroom teaching in target than in control schools.

The figures on the following page illustrate the kind of change that has occurred in the implementation of HIV and AIDS programming in target and control schools between wave 1 and 2. At wave 1, the distribution of implementation scores in both groups of schools overlapped completely with nearly identical mean scores (control $\bar{0}$ = 3.90, target $\bar{0}$ = 4.00). By wave 2 the target schools had pulled away from the controls (control $\bar{0}$ = 4.50, target $\bar{0}$ = 5.60). It is important to recognize, however, that some overlap remained (see shaded portion of graph for wave 2). Thus, 14% of control schools were doing as well as the upper half of target schools and 9% of target schools were doing as poorly as the lower half of control schools (see darker shading on graph for wave 2). It is this overlap and the fact that in both groups there is a range of scores on implementation, that explains why, in later analyses, it is often the *score* a school received on implementation rather than whether a school was a target or control school that influenced outcomes. These graphs, however, clearly show that 6 months after completing the full complement of teacher training, target schools are pulling ahead of controls.

Pre-test Implementation of PSABH in Schools



Post-test Implementation of PSABH in Schools



Relationship Between Programme Components

The strength of the correlations between various measures of programme uptake (e.g. infusion, integration, use of question box, school health club, teaching in classroom subjects, assemblies, etc.) at wave 2 and in the SRS (e.g. use of books, posters, presence and content of factual and behaviour change messages, etc.) support the conclusion that schools that take up PSABH activities soon after training are those that are likely to maintain these activities over time (see Table S in Appendix B). It also supports the conclusion that schools that were incorporating HIV/AIDS programming were doing so in every way that was measured. Finally, it suggests that the assessment of zonal inspectors is comparable to that of teachers and pupils with respect to programme uptake.

What influences uptake?

In examining factors that influence programme implementation, PSABH training was found to have the most important influence on whether HIV/AIDS programming was present in schools and on the increase in programming from wave 1 to wave 2. Schools with trained teachers had more programming or more types of activities, teachers reported fewer barriers to teaching about HIV/AIDS, and there was a greater variety of resources put toward teaching about HIV and AIDS. Whether or not a school was in the target or control group, the implementation score based on pupil observations of school activities was influenced by:

- SES or level of general structural resources in schools;
- Average performance of pupils on KCPE exams;
- Presence and activities of churches in the school and community; and,
- Attitudes of teachers with respect to HIV and AIDS (see Table T, column 3; Table U, column 3).

All of these except church presence also influenced gains in implementation from wave 1 to wave 2. SES and average KCPE scores carried opposite influence. Schools with lower resources and higher KCPE scores and teachers with more accepting attitudes showed the greatest uptake and the greatest gains between wave 1 and wave 2. Clearly, such schools have already overcome their disadvantaged socio-economic status to produce pupils who learn and achieve. When they are helped by the positive attitudes of their teachers, they move forward with HIV/AIDS programming more than other schools. The need to be attentive to the influence of religion on HIV and AIDS programming and messages was evident in programme implementation with several indicators of church presence and activities found to influence implementation. Of note is the implementation scores based on teacher observations were only influenced by training (see Table T, column 2; Table U, column 2).

Teacher Attitudes

Important to consider as PSABH continues to be implemented and adjusted, are the survey and interview findings on teacher attitudes. What was evident in interviews was while some teachers still felt uncomfortable talking about sex, the training had made them much more open to doing so. As noted above, where teachers had more accepting attitudes related to AIDS and the full ABC[3] range of prevention messages, there was more evidence of programme implementation.

[3] Prevention strategies often presented as A: the first and best option is to **A**bstain; B: If you do play sex **B**e faithful to one uninfected partner; C: If you are not faithful, use a **C**ondom.

Before, we had culture where talking to girls and boys about sex was hard, at least after the training we had a way of passing these material (Teacher2_M: 292-294).

[We are] *very free* [to talk about sex since the PSABH training]. *What has made it easier are the skills that we have gained have really helped, how to communicate to get what you want from somebody* (Teacher7_M: 557-561).

You see in the past, say for example the teachers they used to fear being open to the students about HIV/AIDS since it involves sex, they found it really immoral using certain terms. And after we sat down and realized that now it is a matter of life and death we chose life and what goes with life is being open, that is what could bring redemption (Teacher8_M: 203-207).

Despite this talk of change, in survey data there were no target/control or wave1/wave2 differences in attitudes. They remained slightly above the mid-point in all schools. Teachers' attitudes were, however, related to their perception of barriers to teaching about HIV and AIDS. When teachers saw fewer barriers, they also had more favorable attitudes. Of note, is that teacher attitudes improved most in schools with lower teacher/pupil ratios (see Table U, column 1).

This was supported in interviews with teachers where they generally described themselves as struggling and overwhelmed by their HIV/AIDS teaching tasks. As noted earlier, in surveys teachers generally rated the training positively with the exception of how 'easy' it was to understand where only 42% of teachers found it 'easy.' In interviews they similarly spoke of the training as covering far too much for them to absorb. Consequently, they still felt insufficiently prepared.

There are some teachers who feel that it is over burdening them when teaching about HIV/AIDS (Teachers6_M: 498-504).

When we went for the training we were congested…I suggest it should be divided into smaller parts to give you time to attend all of them, so I think we need more information on the training and infusion of HIV/AIDS. It was so complicated that even now we find it hard to incorporate it in the syllabus (Teacher2_M: 84-89).

When we are planning on the content to be taught, we were told to include this information along with what has been there like we can have a topic in Science and we have to include this. So I find it a bit difficult (Teacher3_F: 137-139)

In the regression analysis, the most important influences on barriers to teaching about HIV and AIDS were:

- PSABH training;
- School SES; and,
- Average KCPE scores (see Table T, column 1).

KCPE scores and school SES seem to be operating the same way here as in programme implementation. These results suggest that barriers can be overcome with training, particularly in schools where pupils are performing well, academically. Good academic performance of pupils

may be a reflection of schools and teachers that are better able to motivate and teach pupils, i.e. schools where teachers are less likely to see barriers to any new curriculum. They may also reflect schools where pupils themselves are more motivated and able to learn, which, in turn, influences teachers to feel positively about new materials, since they feel their pupils can master it. As educators know, the influence that flows between teachers and their pupils is not unidirectional. We know that good teaching can contribute to good pupil performance however good pupils can also contribute to good teaching.

Combining all data sources, the picture emerges of teachers who have a desire to help pupils avoid HIV infection and who generally have positive attitudes toward teaching about HIV and AIDS, however, they find this teaching difficult given their other responsibilities, their level of training, and their lack of comfort in teaching about sexual matters. PSABH training and being in a school where pupils are doing well academically can help overcome practical barriers to adding HIV and AIDS to the school curriculum.

Pupil Responses

Although some teachers continued to express the feeling that they were inadequately prepared to teach about HIV/AIDS, 65-75% of pupils found the lessons about HIV/AIDS to:

- Be very useful;
- Have told them everything they needed to know;
- Have helped them make the right decisions; and,
- Have helped them protect themselves from disease.

Responses on these items formed a *Usefulness Evaluation* sScale (see Appendix A p.) which measured how pupils rated practical utility of the HIV/AIDS programme in their school. Only a minority (30-40%) found the lessons:

- Difficult to understand;
- A bit shameful; and,
- Boring.

Responses on these items formed an *Affective Evaluation* scale (see Appendix A) which measured pupils' affective responses to HIV/AIDS programming in their schools. The feelings of pupils were the same in all schools and across both waves of data collection supporting the statements made by youth in focus group discussions.

> *They* [teachers] *say the truth…They are of help to us…When you follow the teachings you do not get yourself in problems* (Girls4: 314-322).

> *It* [PSABH programme] *is good…because teachers have talked to us about many things we did not know* (Girls3: 1618-1621).

> *Q: What do you think is the best part about the HIV/AIDS program in your school?*
> *The periods or lessons on HIV/AIDS.*
> *Q: Why?*
> *They teach young people on how to protect themselves against HIV/AIDS* (Boys8: 756-761).

Q: What do you think is the best part about the HIV/AIDS program in your school? You will find teachers telling us to be careful because the world is a place with no hope, many people are dying and we do not know the origin of this disease that has struck us (Boys6: 785-791).

When Usefulness and Affective Evaluation scale scores were examined school by school, it was surprising to find that pupils rated HIV/AIDS programming as *less* useful in target schools and *less* affectively positive in schools with higher overall implementation scores (see Table T, columns 6 and 7). However, in schools where teachers were teaching specifically about how to resist pressures to play sex (see chapter on abstinence) the overall ratings on both scales were higher and positive. The pupil profile of schools also influenced the rating of the HIV/AIDS programming. Schools with predominantly Luo pupils had higher average scores on Affective Evaluation. Those with predominantly Kisii pupils had higher scores on Usefulness Evaluation. Finally, schools with higher proportions of Protestant pupils had higher scores on both scales and higher teacher/pupil ratios produced more positive affective responses. Of note is that gains in scale scores between waves 1 and 2 were influenced by the same factors (see Table U, columns 6 and 7).

Taken together, these results suggest that specific teaching about how to remain abstinent is found useful and affectively desirable, but other components of the programme may not be. They also suggest that schools with mostly Protestant pupils are finding the programme most acceptable and useful, that schools where Luo and Kisii pupils predominate respond differently to the programme and that the time teachers have for each pupil may be most important for overcoming pupils' sense of shame and boredom and dealing with different material.

Peer Supporters

Peer supporters were also identified as a source of information for youth. Teachers commented that peer supporters were actively talking to fellow pupils but that adults were unaware of the content of such discussions. What needs to be recognized is that none of the schools appear to be providing support for the peer supporters – they are left on their own to convey information.

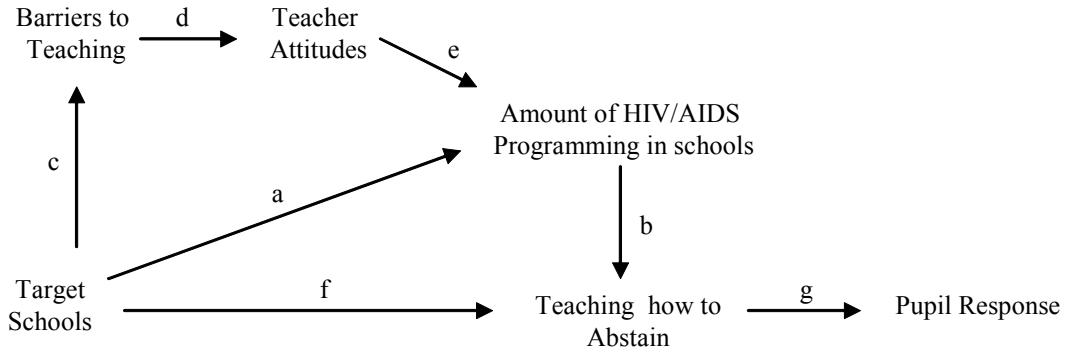
[Peer supporters] *meet with their peers to talk about having sex before marriage, counseling them on bad behaviors. It is easier for one who has trained to know their weaknesses and help them out* (Teacher2_M: 277-279).

These pupils [peer supporters] *you know they are free to one another compared to the parents and teachers* (Teacher8_M: 681-685).

Paths of PSABH Influence on School-Based Programming

The ways in which the various components of HIV/AIDS programming that were present in the schools influenced each other were examined using path analysis. The diagram below portrays the results of this analysis. Arrows represent where statistically significant influences were found

when all factors were taken into consideration. Letters on the arrows correspond with the explanations below the diagram[4].



Effect of PSABH Training on HIV and AIDS Programming

What the above diagram shows is that being in a target or control school affects the various aspects of HIV/AIDS programming both directly and indirectly.

Target compared to control schools have

- Greater amounts of programming (see arrow 'a' above).
- More teaching about how to abstain (see arrow 'f' above).
- Teachers who see fewer barriers to teaching about HIV & AIDS (see arrow 'c' above).

In schools where teachers see fewer barriers to teaching about HIV & AIDS

- Teachers also have better attitudes toward HIV/AIDS teaching (see arrow 'd' above).

In schools where teachers have better attitudes toward HIV/AIDS teaching

- There is more HIV/AIDS programming (see arrow 'e' above).

In schools where there are greater amounts of HIV/AIDS programming,

- There is also more teaching about how to abstain (see arrow 'b' above).

Finally, in schools where there is more teaching about how to abstain

- Pupils respond more positively to the programming, evaluating it as more useful and affectively more acceptable (see arrow 'g' above).

[4] The analyses summarized in this diagram are described in Appendix A (p.). For statistical results used to create this diagram see Table T, columns 6 and 7.

KNOWLEDGE

Adequate knowledge is recognized as a necessary, though not sufficient, condition for taking action to prevent HIV transmission and respond appropriately to the presence of AIDS in the community. Knowing this, it is important to note that the average pupil and teacher scores on knowledge tests did not change significantly between wave 1 and 2 and did not differ significantly between control and target schools. This was true for the summative score incorporating responses to all knowledge questions and also for each subset of questions (knowledge about: STDs and HIV; HIV testing; how to avoid infection; and, risk from PHAs). Teachers continued to respond to about 70-75% of questions correctly while mean pupil scores were below 40%. There was also no evident shift in which questions were responded to correctly or incorrectly. Clearly, something is interfering with improvement in knowledge in all communities and PSABH has not yet been able to counteract this effect.

Four factors influenced both the level of knowledge in each school at wave 2 and the change in the level of pupil knowledge. Knowledge was higher and there was more improvement in knowledge in schools with:

- Higher teacher/pupil ratios;
- Predominantly Kisii pupils;
- Higher scores on programme implementation;
- Pupils who rated the programme higher on practical usefulness; and,
- More churches holding meetings on HIV and AIDS (see Table T, column 8; Table U, column 6).

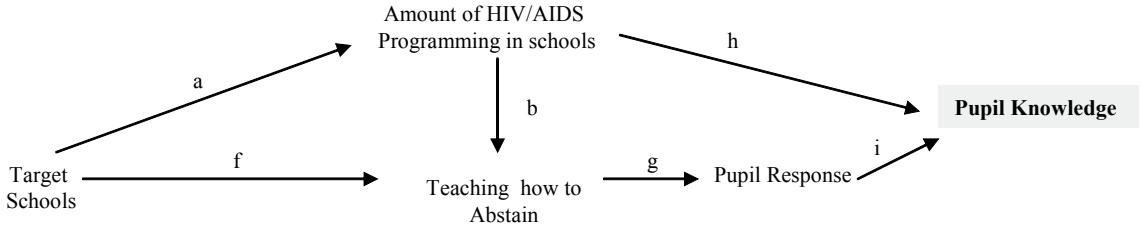
What these results suggest are that while HIV/AIDS knowledge is subject to the same influences as other areas of learning (i.e. teacher/pupil ratios and the ethnicity of pupils are both strongly correlated with KCPE scores), the degree of implementation of components of PSABH and positive pupil response also contribute to higher levels of knowledge, especially in communities where there is other HIV and AIDS programming such as that provided by churches.

When teacher knowledge was assessed, there were no factors on which we collected information that significantly influenced levels of teacher knowledge.

Paths of PSABH Influence on Pupil Knowledge

The ways in which the various components of HIV/AIDS programming that are present in the schools influenced pupil knowledge were examined using path analysis. The diagram below portrays the results of this analysis. Arrows represent where statistically significant influences were found when all factors were taken into consideration. Letters on the arrows correspond with the explanations below the diagram[5].

[5] The analyses summarized in this diagram are described in Appendix A (p.). For statistical results used to create this diagram see Table T, column 8.



Effect of PSABH Training on HIV and AIDS Knowledge

What the above diagram shows is that being in a target or control school affects pupils' knowledge about HIV and AIDS indirectly through its effect on HIV/AIDS programming in the school and pupil response to that programming. Pupil knowledge about HIV and AIDS is higher in schools where there is

- A greater amount of HIV/AIDS programming (see arrow 'h' above).
- More positive pupil response to HIV/AIDS programming (see arrow 'i' above).

As seen in the earlier analysis of the pathways of influence on HIV/AIDS programming, greater amounts of HIV/AIDS programming is found in

- Target compared to control schools (see arrow 'a' above).

More positive pupil response to the programming is found in schools where there is

- More teaching about how to abstain (see arrow 'g' above).

There is more teaching about how to abstain in

- Schools with greater amounts of HIV/AIDS programming overall (see arrow 'b' above);
- Target than control schools (see arrow 'f' above).

Finally, there is more HIV/AIDS programming

- In target than control.

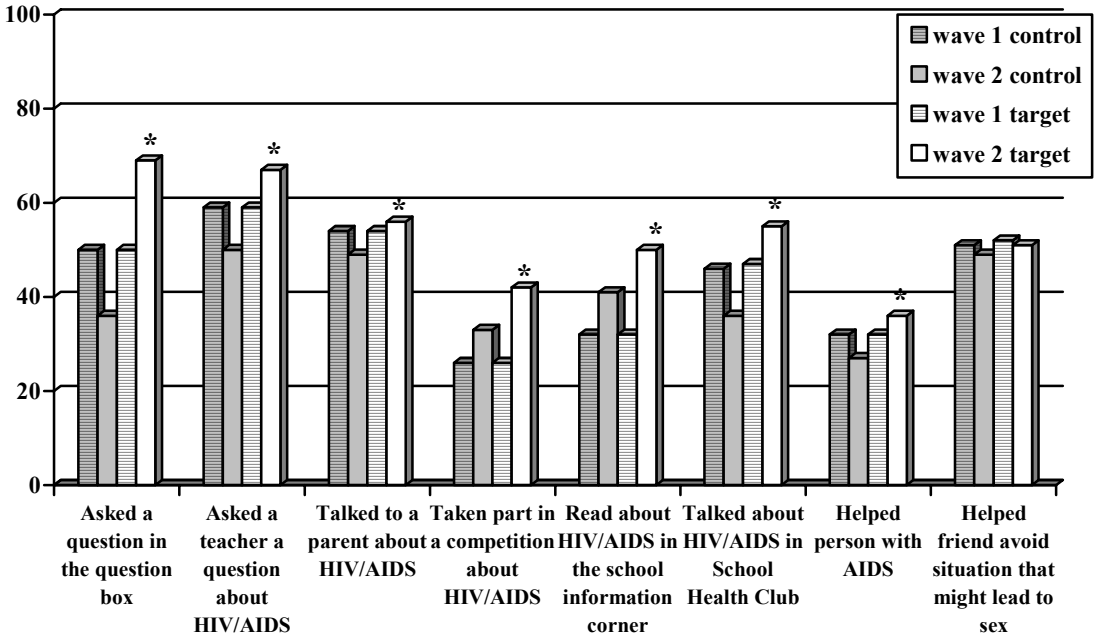
COMMUNICATION AND PURSUING INFORMATION

Communication with others about HIV and AIDS is recognized as an important step towards gathering information, taking responsibility for decreasing one's own risk, and normalizing the presence of AIDS in a community. The importance of communication to pupils was evident in focus group discussions where they consistently spoke of their desire to talk about HIV and AIDS with parents, community leaders and teachers and to learn from others in their community how to respond to this threat.

Pursuing Information

Survey results showed how pupils followed through with this desire for information. There was evidence at wave 2 that pupils in target schools were more actively involved in learning about HIV/AIDS. This included using the question box, talking to teachers and parents, taking part in school activities, and helping others.

Figure G: Percentage of Pupils Who Have:



* increase from wave 1 to wave 2 sig. > in target than control schools at $p \leq .01$

A scale was created using questions that indicated whether pupils were pursuing information about HIV and AIDS. While there was no change in the scores of pupils in control schools on this measure of pursuing information (4.3 at wave 1, 4.2 at wave 2), the scores of pupils in target schools increased substantially from wave 1 to 2 (4.4 at wave 1, 5.9 at wave 2 -- Refer to Table H, Appendix B). The increase in scores in target schools was greater for pupils who:

- Were in STD 7 rather than STD 6;
- Were boys rather than girls;
- Had never played sex rather than those who had played sex.

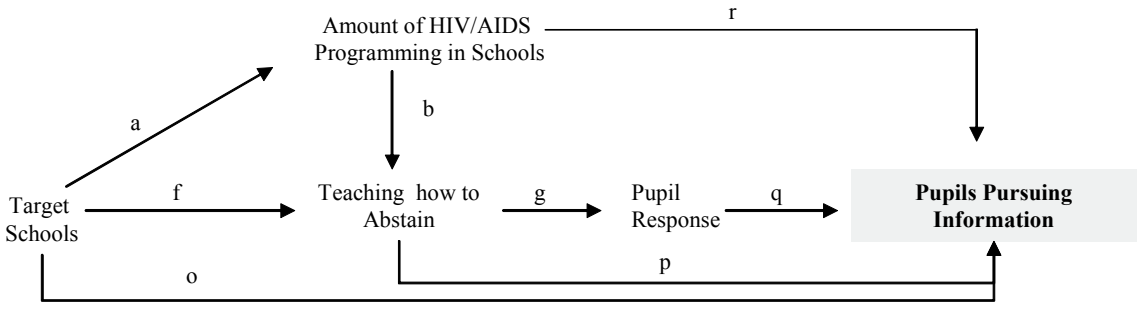
In the school-level analysis, the degree to which pupils in a school were pursuing information was strongly affected by:

- PSABH training;
- Degree of programme implementation in schools;
- Average level of KCPE scores;
- Degree to which teachers were teaching about how to resist pressure to play sex;
- Affective response of pupils to the programme;
- Pupils sense of sexual agency (see chapter on abstinence); and,
- Location of the school (see Table T, column 9; Table U, column 7).

Collectively, these results suggest that in schools where pupils are doing well academically, where teachers have been trained by PSABH, where there is stronger evidence of an HIV/AIDS programme, especially one that addresses one of the stated needs of pupils (teaching how to resist pressure to play sex), where pupils are responding positively to the programme and are gaining a sense of control over their sexual decision-making, pupils are more likely to actively pursue information on their own. Pursuing information is also more likely to occur in urban and peri-urban than in rural schools, a result which may relate to the availability of different sources of information in these locations.

Paths of PSABH Influence on Pursuing Information

The ways in which the various components of HIV/AIDS programming that are present in the schools influenced pupil pursuit of information were examined using path analysis. The diagram below portrays the results of this analysis. Arrows represent where statistically significant influences were found when all factors were taken into consideration. Letters on the arrows correspond with explanations below the diagram[6].



Effect of PSABH Training on Pursuing Information

What the above diagram shows is that being in a target or control school affects how much pupils are pursuing information about HIV and AIDS both directly, and also indirectly through the effect on various components of HIV/AIDS programming. More pupils pursue information about HIV and AIDS in:

[6] The analyses summarized in this diagram are described in Appendix A. For statistical results used to create this diagram see Table T, columns 9.

- Target rather than control schools (see arrow ‘o’ above);
- Schools where there is more teaching about how to abstain (see arrow ‘p’ above);
- Schools where the response of pupils to the programming is more positive (see arrow ‘q’ above); and
- Schools with more HIV/AIDS programming overall (see arrow ‘r’ above).

The indirect pathways of influence from being in a target compared to a control school to pupils’ pursuit of information have been explained in earlier sections and are repeated here.

A more positive pupil response to the programming is found in schools where there is

- More teaching about how to abstain (see arrow ‘g’ above).

There is more teaching about how to abstain in

- Schools with greater amounts of HIV/AIDS programming overall (see arrow ‘b’ above);
- Target than control schools (see arrow ‘f’ above).

Finally, there is more HIV/AIDS programming

- In target than control schools (see arrow ‘a’ above).

Communication with Others

In order to look at who pupils were more likely to go to for information, in the wave 2 PSC pupils were provided with a list of people and asked which of these they wanted to speak to, which they had spoken to, and which they would never speak to about HIV and AIDS. These questions produced three scalar measures. The measures represented wanting and having spoken with female relatives, male relatives and other community members. Items on who would never be spoken to did not meet criteria necessary to create a scale.

Girls had higher scores for communicating with female relatives while boys had higher scores for communicating with male relatives and other community members. Despite these gender differences, the three measures were strongly correlated, i.e. when pupils communicated with one of these groups they were likely to communicate with all. The other factors that exerted the greatest influence on at least one measure of pupil communication included:

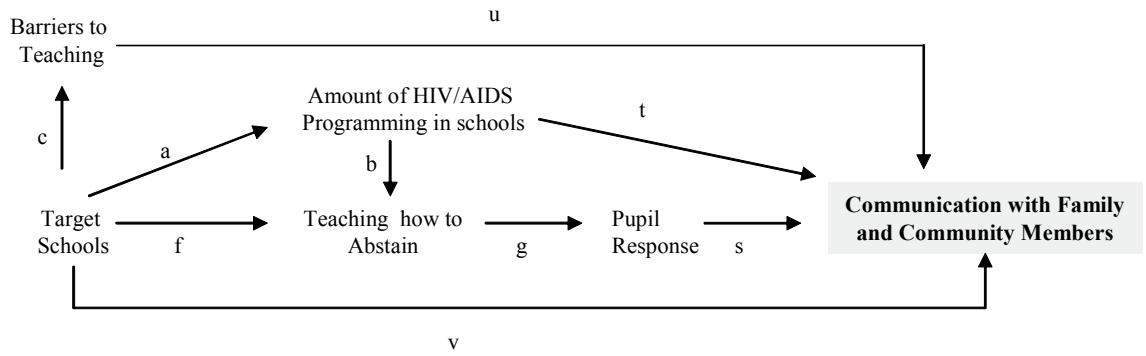
- PSABH training;
- Teacher rated barriers to teaching about HIV and AIDS;
- Degree of programme implementation in schools;
- Pupils’ response to programming;
- Teacher/pupil ratio;
- KCPE scores; and,
- Dominant ethnic group (see Table T, columns 10, 11 and 12).

Of note is that the three most important influences on communication had to do with the presence of HIV/AIDS programming in schools. Schools where teachers had PSABH training (i.e. in target schools), where there was evidence of a high degree of programme implementation where teachers were less likely to see barriers to teaching about HIV and AIDS and where pupils saw the programme as useful, produced pupils who liked to and had communicated more about HIV and AIDS within their families and with others in

their communities. Besides programme effects, schools with predominantly Luo pupils had higher rates of communication with female relatives and lower with other community members while those with lower average KCPE scores had higher rates of communication with family and those with higher KCPE scores had higher rates of communication with other community members.

Paths of PSABH Influence on Pupil Communication with Family and Community Members

The ways in which the various components of HIV/AIDS programming that are present in the schools influenced pupil communication with family and community members was examined using path analysis. The diagram below portrays the results of this analysis. Arrows represent where statistically significant influences were found when all factors were taken into consideration. Letters on the arrows correspond with explanations below the diagram[7].



Effect of PSABH Training on Communication with Family and Community Members

What the above diagram shows is that being in a target or control school affects how much pupils communicate with family and community members about sexuality and HIV/AIDS both directly, and also indirectly through the effect on various components of HIV/AIDS programming. More pupils communicate with family and community members about sexuality, HIV, and AIDS in:

- Target rather than control schools (see arrow 'v' above);
- Schools where the response of pupils to the programming is more positive (see arrow 's' above);
- Schools where teachers see fewer barriers to teaching about HIV and AIDS (see arrow 'u' above); and
- Schools with more HIV/AIDS programming overall (see arrow 't' above).

The indirect pathways of influence from being in a target compared to a control school to pupils' communication with family and community members have been explained in earlier sections and are repeated here.

A more positive pupil response to the programming is found in schools where there is

- More teaching about how to abstain (see arrow 'g' above).

[7] The analyses summarized in this diagram are described in Appendix A (p.). For statistical results used to create this diagram see Table T, columns 10, 11 and 12.

There is more teaching about how to abstain in

- Schools with greater amounts of HIV/AIDS programming overall (see arrow 'b' above); and
- Target than control schools (see arrow 'f' above).

Teachers see fewer barriers to teaching about HIV and AIDS

- In target than control schools (see arrow 'c' above).

Finally, there is more HIV/AIDS programming

- In target than control schools (see arrow 'a' above).

Sources of Information

When asked how much they had learned from a variety of sources, pupils in target schools were significantly more likely than those in control schools to say they had learned a lot from:

- School text books;
- Story books;
- Friends or peers; and,
- Teachers.

There were no differences between control and target schools with respect to the proportion who said they learned a lot from radio, TV, newspapers, magazines, pastors or church leaders, parents or community leaders.

When asked, in an open-ended question, about where they had learned the most important information about HIV/AIDS, the most common answer in wave 1 was radio; whereas, the most common answer in wave 2 was from teachers and/or school clubs. The responses in wave 2 represented a 2-3 fold increase over wave 1.

These results support the conclusion that there is more going on in target schools with respect to HIV/AIDS education than in control schools particularly since the implementation of PSABH. HIV/AIDS programming in schools is replacing external sources such as the radio in providing important lessons for pupils and is also developing in pupils a motivation to pursue information on their own and talk to family and community members about HIV/AIDS. The evidence suggests that PSABH is an important catalyst in learning about HIV/AIDS with pupils in target schools scoring higher than those in control schools on pursuing information and communicating with others.

MAIN MODES OF PREVENTION: ABSTINENCE

In evaluating a programme it is important to look at programme outcomes in terms of the strategies used to bring about a change in behaviours, since a concrete HIV prevention plan is an important contributor to effecting change. Other evaluated programmes in Africa have suggested that an "ABC" (Abstain, Be faithful to one uninfected partner and Use Condoms) based approach can alter patterns of behaviour in a way that will reduce the spread of HIV through modification of knowledge, attitudes, norms and rules of behavior related to **A**bstinence, **B**eing faithful to one partner and Using **C**ondoms. In this evaluation, KAB's were assessed for abstinence and condom use. This chapter presents results for abstinence and the next chapter for condom use.

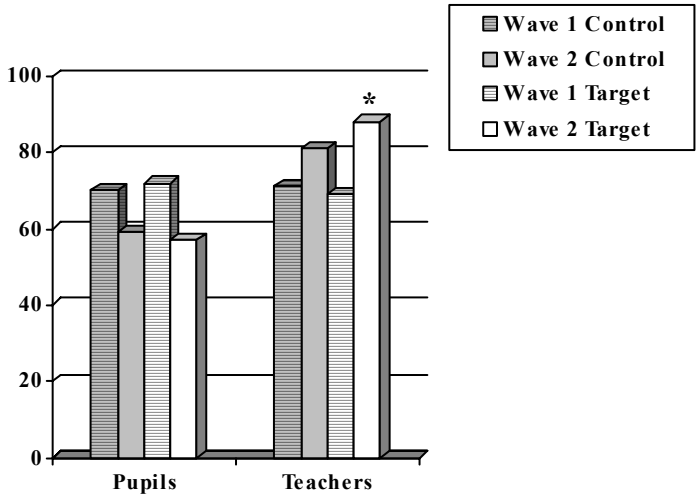
Knowledge

The two prevention methods that pupils were most keenly aware of were: abstain to avoid HIV (they know they can be infected by playing sex) and do not share dirty instruments (i.e. needles, razor blades, etc). It appears as if the main messages they are "getting" or "comprehending" are the aforementioned. There is very little evidence of any other knowledge about preventing transmission of HIV. Clearly, there is a strong focus on abstinence. Teachers have chosen this message over a condom message and it was evident that pupils heard it.

> *We have told them especially those who have not played sex to avoid sex completely before marriage* (Teacher6_M: 234-235).
>
> *The most important thing we tell them is to abstain and it was a big debate as we were told not to use the word condom in our vocabulary* (Teacher4_M: 227-231).
>
> *To stay safe from infection with HIV/AIDS, we should abstain from playing sex because everything has its time even playing sex it is just there. So abstaining is good because you avoid infection with diseases like syphilis, HIV/AIDS and others.*
> *Q: Okay, where did you learn that Susan?*
> *I learnt it here in school, I was taught by the Madam* [female teacher] (Girls2: 1155-1161).
>
> *We are taught that young people should abstain from sex because we could get infected with HIV/AIDS and it has no medicine* (Boys7: 251-253).

Teacher and pupil responses to questions about preventing HIV by avoiding sex followed similar patterns in control and target schools. Both were relatively high in wave 1. Teachers increased in wave 2 and pupils decreased (see figure below). The size of the increase from wave 1 to wave 2 was significantly greater for teachers in target than control schools.

Figure I: Percentage of Teachers and Pupils With Correct Answers: 'You Can Prevent HIV by Avoiding Having Sex'



*increase from wave 1 to wave 2 sig. > target than control schools at $p \leq .01$

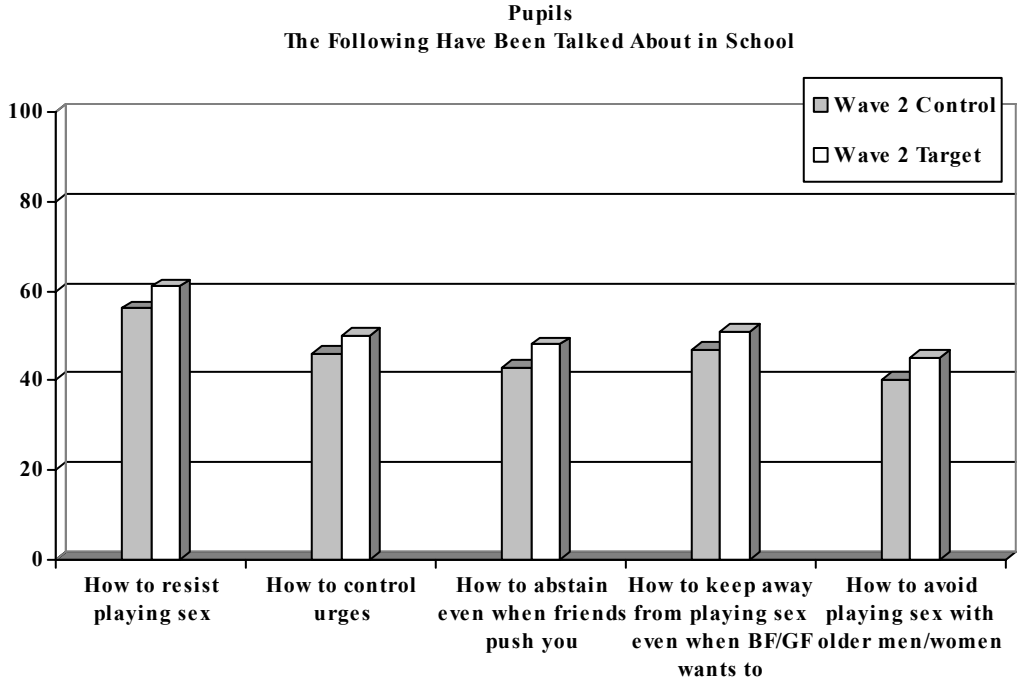
Teaching About Abstinence

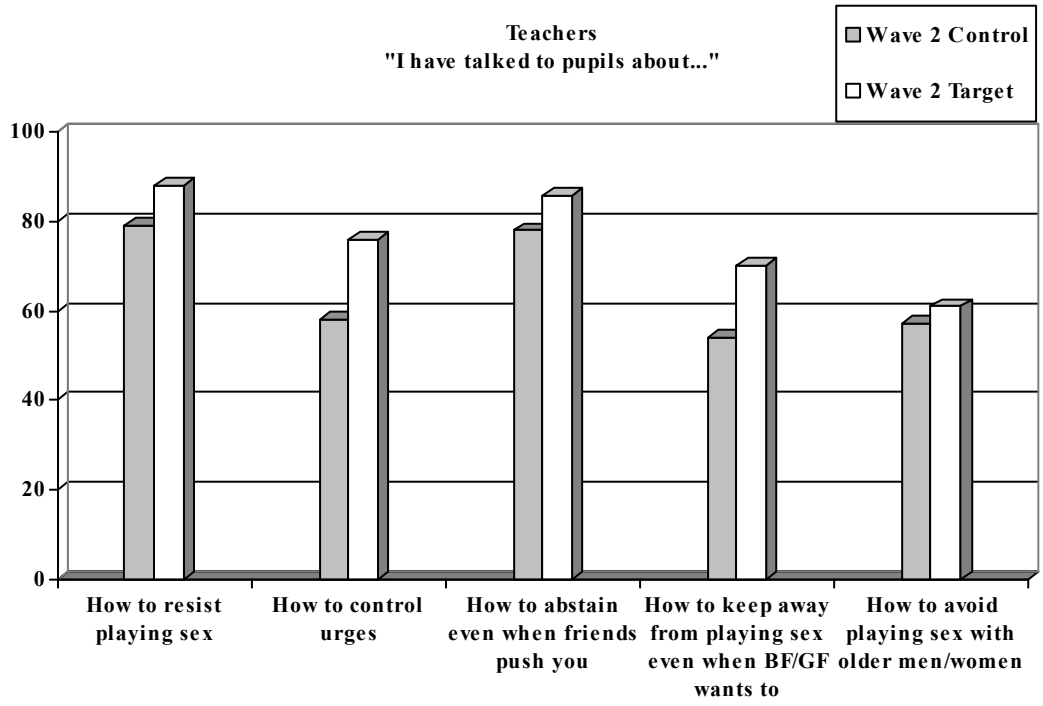
From focus group discussions in wave 1, we learned that youth wanted to learn specific strategies that would help them resist the biological, social and partner pressures that pushed or 'forced' them to play sex. In wave 2 we incorporated questions in both the pupil and teacher surveys to assess whether such teaching was occurring

The specific areas of teaching are portrayed in the figures on the next page where it is evident that a large majority of teachers in both target and control schools claim to have talked to pupils about several strategies related to remaining abstinent. Considerably fewer pupils, however, reported exposure to such teaching. This observation was supported in qualitative interviews and focus groups with teachers and pupils respectively.

> *Q: What have you told the young people about the prevention of HIV/AIDS?*
> *Total abstinence and choosing right friends, avoiding activities like going to discos* (Teacher8_M: 436-439).
>
> *Q: In class…have you talked about how students can abstain?*
> *It was brought up once in class…the headmaster…taught us a little about abstinence…*
> *Q: Do you think you should be taught about it in school?*
> *It should be taught so… students can know that it is only by abstaining that they will be safe from HIV/AIDS* (Boys1: 816-829).

Figures J and K: Percentage of Teachers and Pupils Responding





Items related to teaching about abstinence were subsequently combined into measures of the number of topics teachers had spoken of that related to strategies for abstaining and the number of topics that pupils reported having been taught. The pattern that was evident in the graphs on the previous page was also seen in the scale scores with teachers reporting that they taught more topics related to abstinence (an average of 3.57 out of 5 topics) than pupils reported learning about (an average of 2.75 out of the 5 topics).

Factors influencing scores on these measures were examined using regression analysis (see Table T, columns 4 and 5). Although there were no differences between target and control schools on any one of the topics, more of the topics were being covered in target than in control schools (see figures on previous page). As a result, target schools scored higher on both the teacher and pupil measures of teaching about resisting pressures. In addition, the greater the evidence that HIV/AIDS programming was present in a school (regardless of whether this was a target or control school) the more topics on resisting sex pupils reported being taught. Pupils also reported more teaching about abstinence in schools where there was a stronger church presence and in schools that were better resourced as reflected in higher SES scores. Besides the target/control difference, teachers' reports were only influenced by KCPE scores.

Sexual Scripts

Analysis of wave 1 focus group discussions provided insight into how sexual activity occurs for youth in Nyanza. Girls and boys consistently described a sequence of events and interactions that started with boys initiating contact with girls in response to signals they felt girls were sending or personal interest in a particular girl. Once begun, a sequence of scripted events proceeded, culminating in a girl and boy playing sex. The scripted nature of the sequence (i.e. boys and girls having precise roles to play in a series of consecutive events) led to these being called sexual scripts[8].

It should be noted that the sexual script is highly gendered. Boys are the initiators and actively move the interactions along to insure the end result (i.e. playing sex). Girls primarily respond to boys with signals. Boys interpret these signals as readiness to proceed to the next sequence in the script.

A series of questions were designed to tap beliefs about the gendered nature of these scripts. Pupils were asked whether they believed a girl means no (or whether she means yes) when she says no, and whether it is always necessary for a boy to pressure a girl to play sex. In all cases, boys were more likely to feel that girls meant 'yes' when they said 'no' and need to be pressured to play sex. Approximately half of the girls surveyed agreed with the boys. What was particularly interesting was that the difference between boys and girls was only 4 to 5-percentage points. These results closely paralleled what youth were saying in focus group discussions and suggest a general agreement between boys and girls on the nature of the sexual script and their roles in it.

[8] See *Qualitative and Quantitative Integrated Pre-Programme Report* (August, 2002) for a detailed discussion of sexual scripts.

In focus groups, pupils said church leaders and parents were addressing segments of the sexual scripts. Girls said that teachers were:

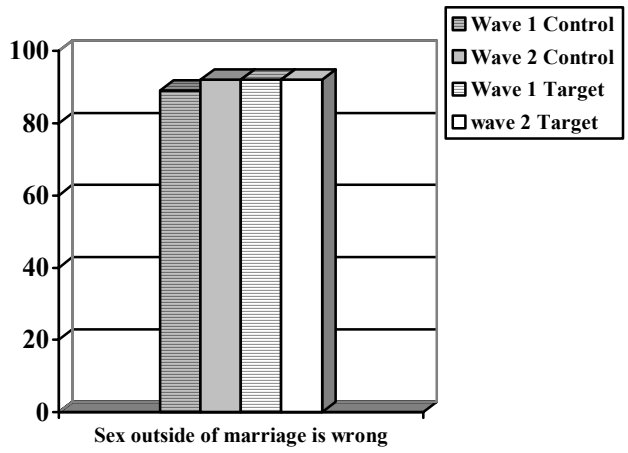
- Talking to them about how their dress and behaviour signal to boys that they want to play sex and to prevent this they should change their dress, manners, and behaviour (go right home, be inside by 6 pm, etc.);
- Talking about places such as discos, forest, being out after 6 pm, to both boys and girls and telling them to avoid them in order to avoid sex;
- Warning them not to take gifts because these lead to playing sex – especially when the gifts are from older boys and men; and,
- Encouraging youth (mostly girls) to talk to teachers or other adults if they were being pressured to play sex.

The evidence of this approach came exclusively from focus group discussions with girls and it is not clear whether these messages are also being delivered to boys. If teachers are focusing only on girls, this is at the expense of both girls (who are then held responsible for sex) and boys (who are left without guidance on how to deal with their own sexual pressures). With these *caveats*, the approach of addressing "How to abstain" by talking about segments of the sexual script that lead to playing sex is a good one. The girls are hearing these messages and repeating them back in interviews – boys are not. This may at least partially explain why there is a very large decrease in girls reporting sexual debut but less decrease for boys (see discussion later in this chapter).

Attitudes Toward Abstinence

Based on teacher interviews, it appears that the dominant attitude being conveyed to pupils is one of fear of AIDS. Consequently, the promotion of abstinence is based on fear. For example: *you must say 'no,' it is the only way… if you don't you will get AIDS and die*. Generally, a "no other alternative" approach or attitude is offered. There continues to be a strong belief among teachers in both control and target schools that sex outside of marriage is wrong (see figure below) and consequently they are not willing to give pupils an alternative to abstinence.

Figure L: Percentage of Teachers Who Strongly Agree



There is some evidence that the churches may be approaching abstinence with more positive messages than those of teachers. These consist of explaining why abstaining is good within a Christian context.

> *We are told be Christians and act like Christians then we are not going to get infected with HIV/AIDS. We are told to stop playing sex carelessly* (Boys1: 621-623).

> *We were taught to pray hard so that God can deliver us from evil and the desire to play sex* (Boys6: 259-260).

> *In this current world, girls are very free and so this disease continues to spread. So the church has taught us that we should remain virgins until we are married like Mary the mother of Jesus* (Girls2: 931-933).

What we know from other research is that fear of AIDS is often not a sufficient reason for abstaining– young people need to have positive reasons (e.g., I don't want to play sex because I want to finish my schooling first). This is supported in several focus groups where youth expressed confidence that they could abstain and could tell their boyfriend/girlfriend they were abstaining, but only if they had concrete reasons for doing so.

Personal Agency: Abstinence

In wave 2, 50-60% of pupils' demonstrated confidence in their ability to abstain by reporting that they could have a boyfriend or girlfriend for a long time without playing sex and could tell their boyfriend or girlfriend that they would not play sex until marriage. These percentages did not differ between boys and girls, between control and target schools, or between pupils who were and were not sexually experienced. A related question was whether pupils felt they could say no to playing sex. Here again, there were no significant target/control or wave 1/2 differences with 50-57% of pupils reporting they could say no.

Although half or more of pupils indicated on surveys that they felt in control of their sexual decisions and could abstain, in interviews, rather than speaking about agency in decision-making around sexual activity, pupils spoke at length about factors that pushed or forced them to play sex.

> *Q: What would make it difficult for somebody to avoid sex?*
> *It is beyond their control…*
> *It is hard once they have reached an older age…adolescence* (Boys8: 452-460).

> *They find it* [playing sex] *very sweet…*[and] *cannot even do without it…or they can have a friend who encourages them to do so…It is also hard not to do so when your best friends do not also abstain* (Boys7: 1111-1114).

She sees it on T.V so she also wants to play sex (Girls5: 1370).

There are some [girls] *who can say NO here* [at school] *but the minute they leave this place they say YES…They are those we are saying their bodies feel hot like the bottom of an iron box…They started playing sex a long time and cannot stop* (Girls2: 1216-1222).

It is clear that youth identify a multiplicity of irresistible forces and pressures that push them to play sex. In order to more fully test the presence and effect of such pressures on pupils' sense of sexual agency or control of their sexual decision-making, pupils were asked, on the wave 2 survey, whether they had ever experienced ten forms of pressure or force. These included bodily urges, physical sexual assault and pressure from, friends either one of boy/girlfriends, older people, or the receiving of gifts. For each of these they were also asked whether they had ever played sex as a result of experiencing each type of pressure. Further analyses found that youth did not differentiate between these types of force or pressure – they collectively represented a singular experience common to both boys and girls. This finding supported how pupils described the experience of force/pressure in focus group discussions.

Two composite measures were constructed from questions related to force/pressure. The first represented the degree to which youth felt in control of their sexuality or felt they had sexual agency. The second represented the degree to which youth explained their sexual activity as a result of pressure or force.

In multivariate analysis, none of the indicators that directly represented PSABH programme implementation were found to have an impact on either the perception that a multitude of pressures was pushing one to play sex (sense of control of one's sexuality) or on reporting that one's sexual experience was not within one's control. However, interpreting common daily experiences as pressure to play sex and responding to these pressures by playing sex was more common in schools where:

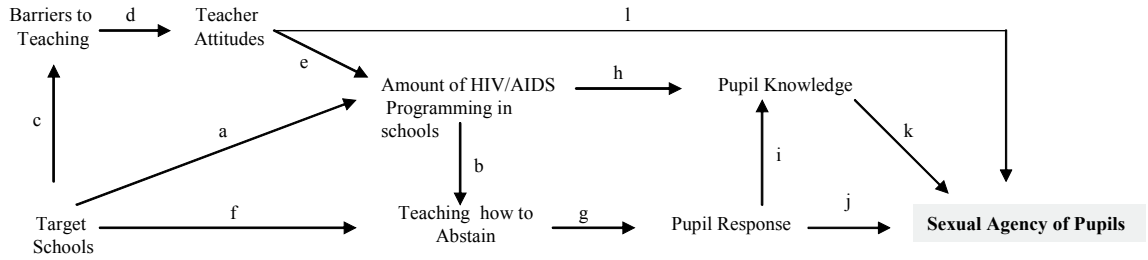
- Pupils' affective response to the programme was negative (i.e. it was shameful, boring or too difficult);
- Pupils had lower AIDS knowledge scores;
- Teacher attitudes toward teaching about HIV and AIDS were poorer; and,
- There was a stronger religious presence in HIV and AIDS programming in the communities (see Table T, columns 13 and 14).

In addition, pupils more often claimed that sexual activity was in response to force in rural schools and schools with higher average KCPE scores. Although programme implementation itself had no influence here, the effect of teacher attitudes and pupil knowledge suggest that the HIV/AIDS programming in the school is important, especially when remembering that PSABH training influences the degree of programme implementation which in turn influences levels of knowledge. In this way, PSABH training and implementation are influencing the perception of pressure and subsequent response to this pressure by playing sex, albeit indirectly through knowledge.

It is also important to recognize that religious programming in the community may be contributing to interpretation of sexual behaviour as being outside pupils' personal control -i.e. a result of being pressured or forced. In the face of strong church messages backing up the school messages on abstinence, these perceptions may become the "excuses" that youth use for their sexual activity. More accepting attitudes on the part of teachers and better pupil knowledge do appear to counteract pupils' feelings of personal vulnerability to playing sex.

Paths of PSABH Influence on Sexual Agency

The ways in which the various components of HIV/AIDS programming that are present in the schools influenced pupil sexual agency were examined using path analysis. The diagram below portrays the results of this analysis. Arrows represent where statistically significant influences were found when all factors were taken into consideration. Letters on the arrows correspond with explanations below the diagram[9].



Effect of PSABH Training on Sexual Agency of Pupils

What the above diagram shows is that being in a target or control school affects the sexual agency of pupils indirectly through the effect on various components of HIV/AIDS programming and pupil knowledge. More pupils have a sense of sexual agency in schools where:

- The response of pupils to the programming is more positive (see arrow 'j' above);
- Pupils have more accurate knowledge about HIV and AIDS (see arrow 'k' above);
- Teachers have more positive and accepting attitudes toward teaching about HIV and AIDS (see arrow 'l' above);

The indirect pathways of influence from being in a target compared to a control school to pupils' sexual agency have been explained in earlier sections and are repeated here. Pupils' knowledge about HIV & AIDS is higher in schools where there is

- A greater amount of HIV/AIDS programming (see arrow 'h' above);
- More positive pupil response to the programming (see arrow 'i' above).

Greater amounts of HIV/AIDS programming is found in

- Target compared to control schools (see arrow 'a' above);

[9] The analyses summarized in this diagram are described in Appendix A (p.). For statistical results used to create this diagram see Table T, column 13.

- Schools where teachers have more positive and accepting attitudes toward teaching (see arrow 'e' above).

Teachers' attitudes toward teaching about HIV and AIDS are better in schools where:

- Teachers perceive fewer barriers to teaching about HIV and AIDS (see arrow 'd' above).

Teachers perceive fewer barriers:

- In target than control schools (see arrow 'c' above).

More positive pupil response to the programming is found in schools where there is

- More teaching about how to abstain (see arrow 'g' above).

Finally, there is more teaching about how to abstain in

- Schools with greater amounts of HIV/AIDS programming overall (see arrow 'b' above);
- Target than control schools (see arrow 'f' above).

Commitment to Abstinence

In response to direct questions in wave 1, a large proportion of pupils expressed a strong commitment to abstinence. In focus groups we gained insight into 'what it takes' to remain abstinent in terms of the actions and beliefs of pupils. As with questions on pressures to play sex, survey questions that reflected the content of focus group discussions about abstinence were tested in wave 2 and found to form a single scalar measure of *commitment to abstinence*. While commitment to abstinence was equally high in both target and control schools at wave 2, there were factors both in the community and in PSABH programming that influenced the level of commitment. The average commitment to abstinence was higher in schools:

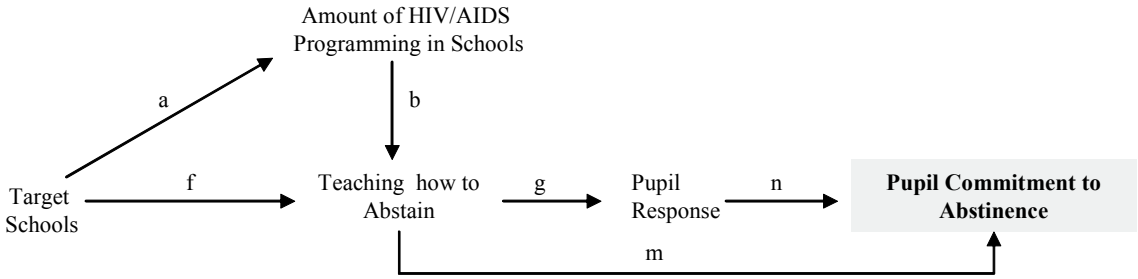
- With greater teaching resources reflected in higher teacher/pupil ratios;
- Where pupils were learning more about how to resist pressures to play sex;
- Where pupils responded to the programme with positive affect;
- Where pupils were not predominantly Kisii; and,
- Where churches were holding meetings about HIV and AIDS (see Table T, column 15).

These results suggest that teaching about abstinence in a school where teachers probably have more time to spend with their pupils and where those pupils are responding more positively to the programme combines with church teachings to produce a stronger commitment to abstinence. However, these commitments are weaker in schools with predominantly Kisii pupils.

Path PSABH Influences on Commitment to Abstinence

The ways in which the various components of HIV/AIDS programming that are present in the schools influenced pupil commitment to abstinence was examined using path analysis. The diagram below portrays the results of this analysis. Arrows represent where statistically significant influences were found when all factors were taken into consideration. Letters on the arrows correspond with explanations below the diagram[10].

[10] The analyses summarized in this diagram are described in Appendix A (p.). For statistical results used to create this diagram see Table T, columns 6 and 7.



Effect of PSABH Training on Pupil Commitment to Abstinence

What the above diagram shows is that being in a target or control school affects pupils' commitment to abstinence indirectly through the effect on various components of HIV/AIDS programming. More pupils are commited to abstinence in schools where:

- There is more teaching about how to abstain (see arrow 'm' above)
- The response of pupils to the programming is more positive (see arrow 'n' above).

The indirect pathways of influence from being in a target compared to a control school to pupils' commitment to abstinence have been explained in earlier sections and are repeated here.

A more positive pupil response to the programming is found in schools where there is

- More teaching about how to abstain (see arrow 'g' above).

There is more teaching about how to abstain in

- Schools with greater amounts of HIV/AIDS programming overall (see arrow 'b' above);
- Target than control schools (see arrow 'f' above).

Finally, there is more HIV/AIDS programming

- In target than control schools (see arrow 'a' above).

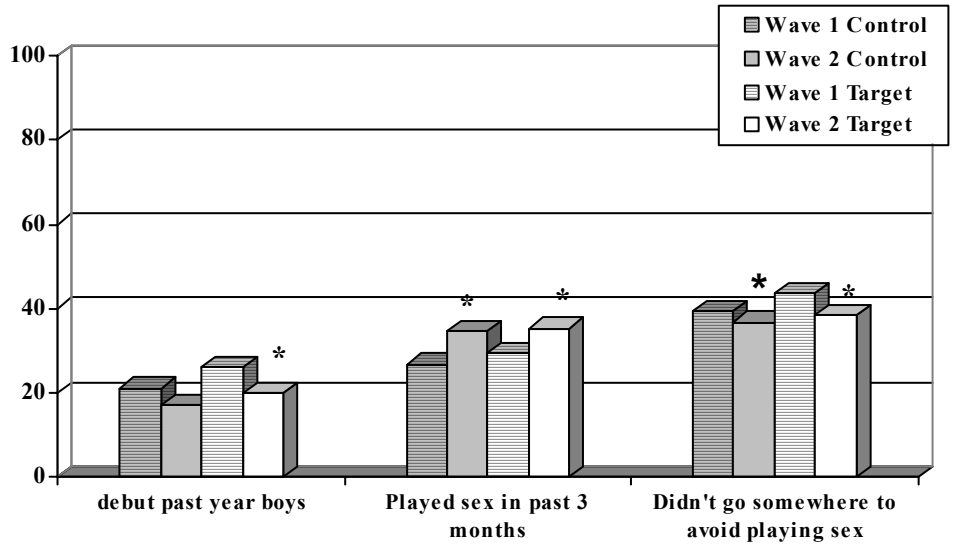
Sexual Behaviour: Abstinence

For playing sex, prevention programmes can potentially have an effect on two outcomes. First, for pupils who have not yet initiated sexual activity when the programme begins (i.e. pre-programme virgins), a desired outcome is that they not initiate sex during or after the programme. Second, for those who are already sexually active (i.e. pre-programme non-virgins), a desired outcome is that they return to celibacy or abstinence.

To test whether the programme had an effect on initiating sexual activity, STD 6 pupils from wave 1 were compared to STD 7 pupils from wave 2. Since wave 1 data were collected near the end of the school year and wave 2 near the beginning, this insured that similar groups of pupils and time periods were compared. There was a decrease found in the proportion of youth who initiated sexual activity once the programme began compared to the same time period for pupils in the same grade prior to programme initiation.

- For boys, this decrease was slight and only evident in target schools.
- For girls there was a substantial decrease in both target and control schools

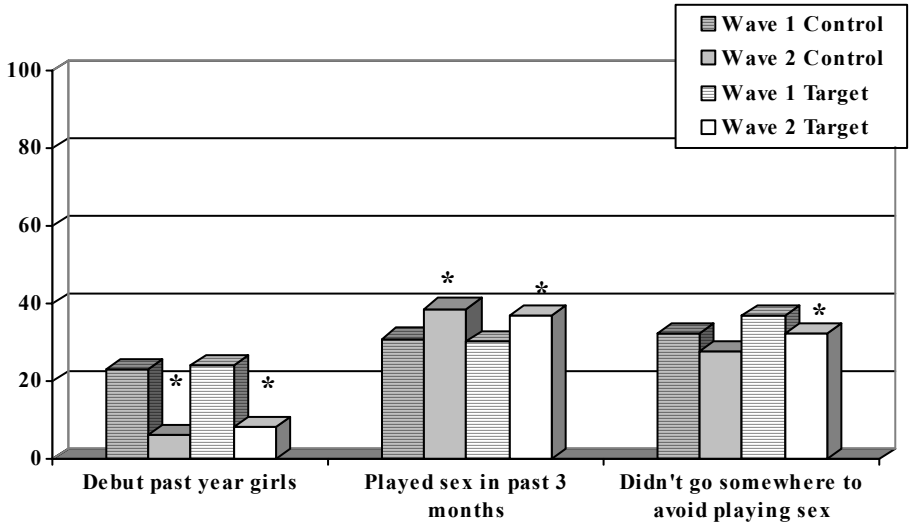
Figure MI: Percentage of Boys



* significant wave1 to wave 2 change at $p \leq .01$

Debut is based on 537 wave 1 control, 437 wave 2 control, 508 wave 1 target and 486 wave 2 target.
Sex in past three months is based on 733 wave 1 control, 652 wave 2 control, 854 wave 1 target and 702 wave 2 target.

Figure MII: Percentage of Girls



* significant wave1 to wave 2 change at $p \leq .01$

Debut is based on 543 wave 1 control, 717 wave 2 control, 489 wave 1 target and 595 wave 2 target.
Sex in past three months is based on 602 wave 1 control, 260 wave 2 control, 623 wave 1 target and 248 wave 2 target.

It should be noted that there was also a lower level of sexual activity prior to programme initiation for the wave 2 sample compared to the wave 1 sample. It is difficult to provide a definitive interpretation of this difference since the samples in the two waves of data collection were at different phases in their schooling and not directly comparable. However, it may indicate that girls in particular were already beginning to postpone sexual debut before PSABH programming began in their schools. Data collected later in 2003 will help in producing a clearer interpretation of what is happening here.

A discouraging result was that for youth who were already sexually active before the programme began there was a significant increase in the percentage reporting sex in the past 3 months for both girls and boys.

Qualitative data provided insights into the strategies pupils used in order to avoid playing sex.

> *If you do your house chores properly, help your parents and just stay at home without indulging in sexual activities you will not get infected with HIV/AIDS* (Girls3: 387-389).
>
> *When the desire comes you should do exercises, a lot of it like football* (Boys1: 943).
>
> *I learnt that even if my body starts to change like develop breasts, I will not bother with that. I will not start admiring myself and thinking about boys. This will later bring me problems because boys also will start approaching me and telling me I am beautiful* (Girls2: 1474-1477).
>
> *Sex is not food to sustain you it is just for pleasure so you can abstain* (Boys6: 349-350).
>
> *If a boy approaches and tells me that he wants to play sex with me, then that means he wants to mess up with my studies, so I will tell him to go away and leave me alone* (Girls4: 1199-1201).

When examining the factors that influenced recent sexual debut. Schools with lower proportions of pupils initiating sexual activity during the year prior to wave 2 data collection were found to:

- Have predominantly Luo pupils;
- Have a weaker church presence; and,
- Have higher proportions of pupils talking with community members about HIV and AIDS (see Table T, column 18).

In addition, schools that had high proportions of pupils initiating sex the year prior to wave 1 data collection also had a high proportion in the year prior to wave 2 data collection suggesting that there were stable patterns of sexual debut in each community. The main difference between boys and girls was that there were higher proportions of

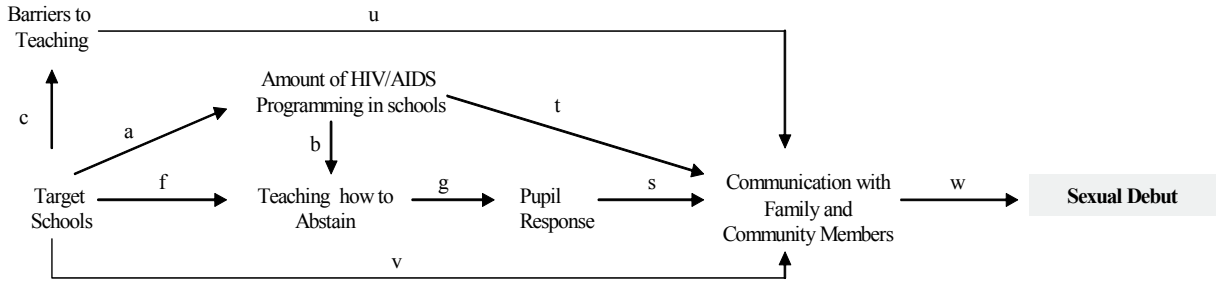
boys initiating sex in schools where the majority of pupils reported feeling pressured by multiple sources (i.e. they had less of a sense of sexual agency or control over their sexual decision-making), where there was more communication with female relatives and a higher teacher/pupil ratio (see Table T, columns 16 and 17).

Of interest is that none of the indicators on which data were collected helped to explain different rates of recent sexual activity. It appears that once pupils are sexually active, they are likely to have engaged in sex recently, regardless of personal or school factors, perceptions of pressure or force, or the presence of HIV/AIDS programming. This coincides with results from research on other school-based programmes which support the conclusion that once youth are sexually active it is very difficult to get them to return to abstinence (Gallant & Maticka-Tyndale, in press).

Unlike the above results, refusing to engage in sex and not going places in order to avoid playing sex were influenced, in part, by teaching about how to resist sex (see Table T, column 20).

Paths of PSABH Influence on Sexual Debut

The ways in which the various components of HIV/AIDS programming that are present in the schools influenced pupil sexual debut was examined using path analysis. The diagram below portrays the results of the analysis. Arrows represent where statistically significant influences were found when all factors were taken into consideration. Letters on the arrows correspond with explanations below the diagram[11].



Effect of PSABH Training on Sexual Debut

What the above diagram shows is that being in a target or control school has an indirect effect on whether pupils initiate sexual activity once PSABH programming is in the schools. This effect operates through the target/control influence on communication with family and community members about HIV and AIDS. Schools have higher proportions of pupils who have not initiated sexual activity 6 months after teachers completed PSABH training when::

- There is more communication between pupils and family and community members about sexuality, HIV and AIDS (see arrow 'w' above).

[11] The analyses summarized in this diagram are described in Appendix A (p.). For statistical results used to create this diagram see Table T, 18.

The pathways of influence between being in a target compared to a control school and pupil communication with family and community members have been explained earlier and are repeated here. Higher proportions of pupils communicate with family and community members about sexuality, HIV and AIDS in:

- In target rather than control schools (see arrow 'v' above);
- In schools where the response of pupils to the programming is more positive (see arrow 's' above);
- In schools where teachers see fewer barriers to teaching about HIV and AIDS (see arrow 'u' above); and
- In schools with more HIV/AIDS programming overall (see arrow 't' above).

A more positive pupil response to the programming is found in schools where there is

- More teaching about how to abstain (see arrow 'g' above).

There is more teaching about how to abstain in

- Schools with greater amounts of HIV/AIDS programming overall (see arrow 'b' above);
- Target than control schools (see arrow 'f' above).

Teachers see fewer barriers to teaching about HIV and AIDS

- In target than control schools (see arrow 'c' above).

Finally, there is more HIV/AIDS programming

- In target than control schools (see arrow 'a' above).

Behaviour Change: Teachers

An interesting point to note is that when teachers were asked how PSABH had affected their own attitudes and behaviour with respect to HIV/AIDS, 57% suggested that they were more inclined to change their behaviour, with a greater focus on abstinence. There were another 27% who indicated a trend towards behaviour change but were either unclear about the nature of that change (i.e. "from immorality") or suggested other modifications to their lifestyle (i.e. "improved diet").

MAIN MODES OF PREVENTION: CONDOMS

For those who are sexually active, condoms are an effective way to reduce the spread of HIV and the personal risk of infection. Condom education and support have, however, been difficult to implement in school-based programmes across much of sub-Saharan Africa (Gallant & Maticka-Tyndale, in press). The situation in Nyanza schools was no different.

There was virtually no "good news" about condoms in either wave 1 or 2 qualitative interviews. While there were a small number of "use condoms if you must" quotations, the great bulk of the discussion on condoms by pupils contained false information and half-truths which were negative messages inverted from correct information.

> *There are some people who trust condoms whenever they play sex but we were told not to trust them that a condom will not protect. This is because if you put salty water in a condom some will evaporate indicating that condom has holes* (Boys8: 624-627).
>
> *We were told that if someone tells you to use condoms to protect yourself from HIV/AIDS infection, it is not true, you will still get infected* (Girls2: 1484-1492).
>
> *You can use them* [condoms] *and it goes inside a girl's stomach and hurts her and it cannot be removed* (Boys1 1352-1353).

Clearly when condoms were spoken of it was often in the context of *NOT* providing protection.

Teaching About Condoms

It was evident in interviews that teachers struggled with conflicting perceptions of condoms. These included the belief that condoms can protect, their fear that teaching this would encourage youth to play sex, their belief that non-marital sex was a sin and their belief that condoms were imperfect, harmful and prone to failure. For most teachers, this resulted in teaching nothing or providing false information (though they may have believed what they were saying was true).

> *I encourage them to abstain completely from sex that is what I do mostly. I do not tell them to use condoms and even those who have tried and found that it is good I try to tell them to stop completely because they can mess with their body* (Teacher1_F: 462-465).
>
> *We normally tell them to abstain because we never want to tell them about condoms because we cannot be sure how they use them they must be used correctly* (Teacher7_M: 348-350).

We do not talk about condoms because we feel most of the pupils who are still innocent could go and try this and we do not want them to try it (Teacher3_F: 411-414).

I tell them that condoms are not good because it could have faults, it could have expired or it could be having even holes. It is therefore not 100% protective (Teacher6_M: 241-245).

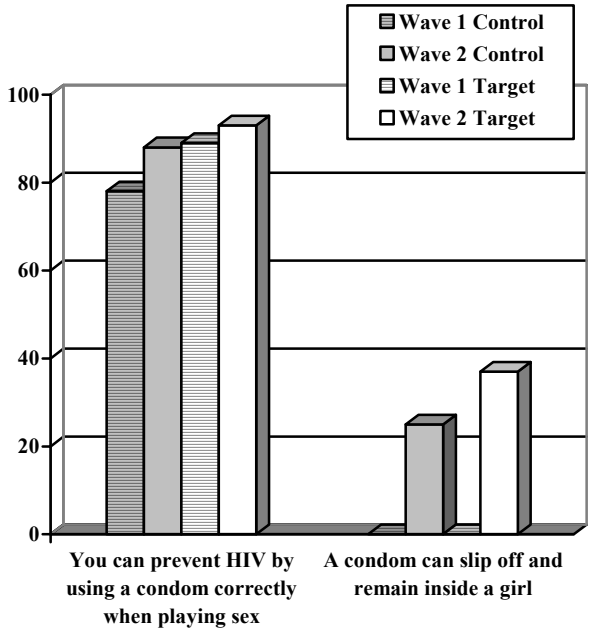
I do not tell them anything to do with condoms (Teacher8_M: 461).

The "best" message that was found in teacher interviews was that "condoms are for adults, not for teenagers" – this at least did not reject condoms for everyone.

Condom Knowledge

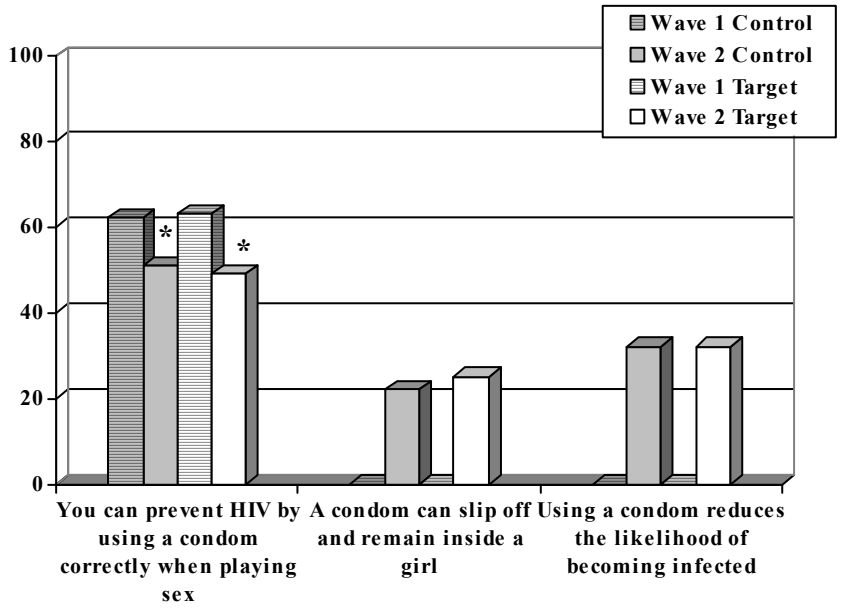
Despite the conflicts that teachers faced with respect to teaching about condoms, a large proportion of teachers were already answering condom knowledge items correctly in wave 1. This knowledge increased slightly, though not significantly, for both target and control schools in wave 2. However, what only began to be tapped in wave 2 surveys were myths about condoms. As seen below, few teachers were aware that, for example, condoms do not remain inside a girl if they slip off. When the answers to these two questions are combined we again see the belief that condoms *can* prevent HIV transmission, but they are harmful.

Figure NI: Percentage of Teachers With Correct Answers



The conflicts and struggles that teachers described in dealing with condoms led them to provide pupils with mixed messages about condoms. These mixed messages were evident in how pupils responded to questions about condoms and in the general poor condom knowledge among pupils. Fewer pupils responded correctly to knowledge questions referring to condoms in wave 2 than wave 1 although there were no differences in target than control schools.

Figure NII: Percentage of Pupils Having Correct Answers



*difference between wave 1 and 2 sig. at p ≤.01

Focus group discussions provided further insight into pupil responses on condom knowledge questions. Often pupils repeated the misinformation and anti-condom attitudes heard from adults.

> *We are taught about condoms…They are like gloves that are made of rubber and they are used for bad manners, playing sex…If you use a condom when playing sex with a boy, his water will pour inside and it becomes too hot so the water will pass through the condom and if he is infected with HIV/AIDS, it will go through the condom and go to your stomach* (Girls3: 768-781).

> *They even told us that those condoms that come to Kenya are normally expired so they are not good and are already used* (Boys1: 1125-1126).

> *The teacher told us that condoms are made using the virus from HIV/AIDS and that we should not use them* (Boys7: 1359-1360).

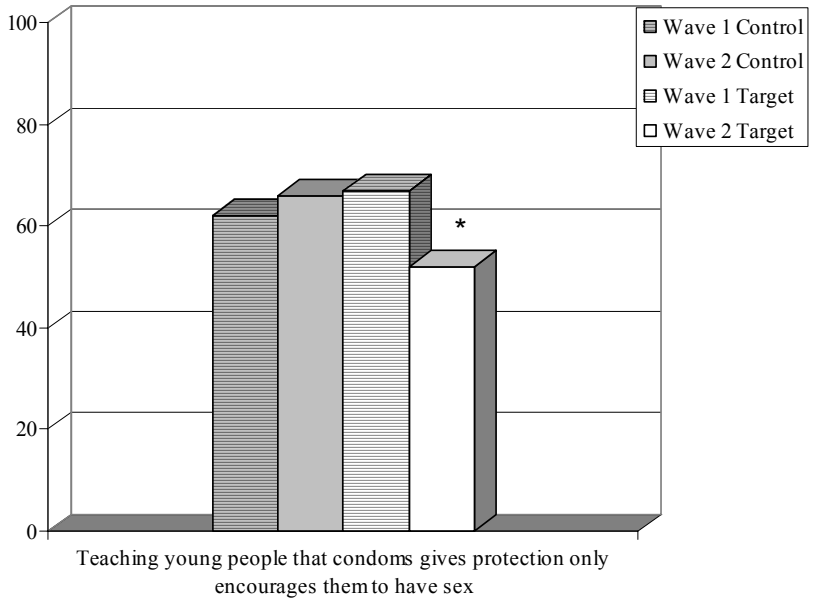
Youth were aware of the multiple and conflicting messages they were receiving and could often identify the sources of misinformation. Of importance is that they were not passive recipients of this information. It was clear that they were thinking about what they were being told, comparing it to other information they were hearing, and formulating their own *condom knowledge*. They recognized that their condom knowledge was incomplete and frequently commented that what they wanted to know was the "truth" about condoms so that they would know what to do when they became sexually active in the future.

> *What can we trust about condoms because some say it is safe others say it has holes?* (Boys7: 1715-1716)
>
> *We should be taught more about condoms because we know that if we play sex with a condom, it will not give protection. So we want to know the truth about it* (Girls2: 1924-1926).
>
> *I would like to be told the truth if really condoms protect HIV/AIDS* (Boys8: 642).

Condom Attitudes

Teachers held strongly to views related to HIV prevention in wave 1 and generally maintained these in wave 2. The one exception was in the area of teaching about condoms. In wave 1 the majority of teachers strongly endorsed the statement that teaching young people that condoms give protection against HIV will only encourage them to play sex. In wave 2, although this view was still endorsed by the majority, teachers in target schools were less adamant or certain about it. Condoms were a particularly difficult area of teaching, so this shift – the only one in condom attitudes – suggests PSABH may be making some gains in this area.

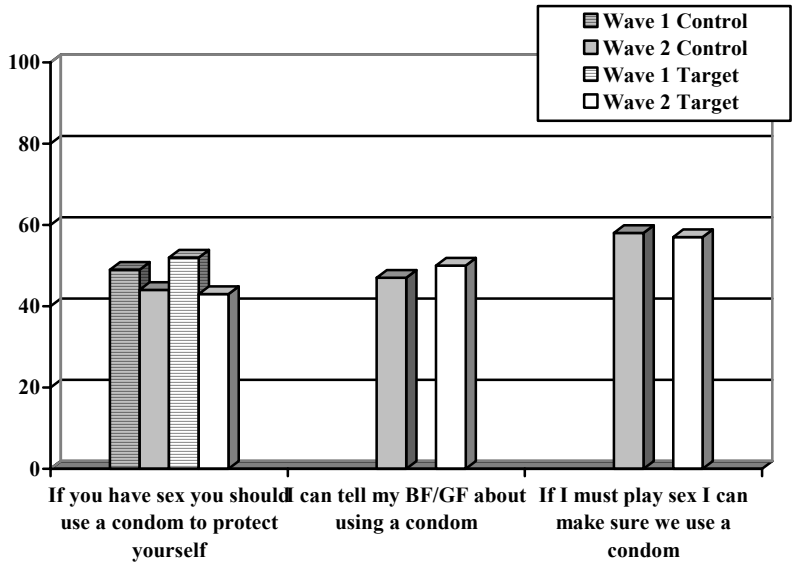
Figure O: Percentage of Teachers Who Strongly Agree that:



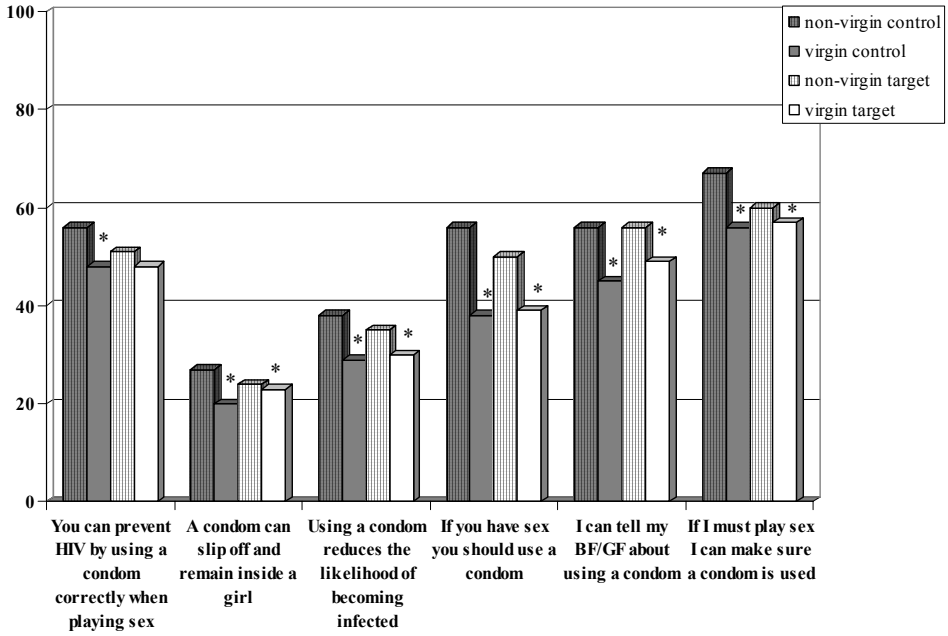
*difference in wave 1-2 changes significantly different in target than control schools at p≤.01.

About half (40-60%) of youth held positive views towards condoms with no difference in this proportion between waves 1 and 2 and between target and control schools.

Figure P: Percentage of Pupils Who Agree:



At wave 2, knowledge and attitudes related to condoms differed somewhat between pupils who were sexually experienced and those who were not. Pupils with experience scored significantly higher on almost all questions tapping knowledge, attitudes, beliefs and intentions related to condoms. This suggests that those with sexual experience were accessing or developing the knowledge and attitudes necessary to use condoms more than those who were not yet sexually active.



* Significant difference between virgin and non-virgin pairs at p≤.01

Figure Q: Differences in Responses between Non-virgins and Virgins at Wave 2

Condom Messages in the Community

Positive messages about condoms appeared to be coming from sources outside of the schools. For example, community representatives and other youth, in some cases, provided more positive/accepting messages regarding condoms (e.g., condoms are necessary).

> *I have always tried to tell them that if they have to, then they had better use condoms. I tell them that a condom is not really perfect but it could help. And you need to use it persistently and effectively whenever you need to play sex. Then there is also the female condom for the ladies when they want to play sex* (Community3: 677-692)

However, these messages were, at times, mixed with negative messages.

> *Condoms can reduce risks of getting the disease so I have advised them* [young people] *to use the condom when playing sex…*
> *If it* [condoms] *is not effectively used they cannot prevent that disease…*
> *There are young people who involve themselves in acts of immorality and to remove them from such acts is difficult. I also tell them that they can use condoms to protect themselves. These are not school going children but those who have dropped out of school…*
> *Those who wander around and they don't want to abstain then those can use condoms even though it is not 100% effective. It does not protect but it reduces the chances of infection* (Community1: 383-418).

There were also examples of older siblings, friends, and peer supporters in the schools providing some positive role modeling or messages (more factually accurate) to youth.

> *You find some older brothers are the ones buying condoms and using them when playing sex with girls in the forests. Some have them inside their wallets* (Boys6: 726-728).

> *The brother that I follow told me that condoms are good I should use them* (Boys7: 1542).

> *My friend told me that condoms are good and should be used if you do not want to get the disease* (Boys7: 1603-1604).

Just as there was evidence that some churches were finding positive ways to speak of abstinence, there was also some evidence that churches may not be as adamantly anti-condom as teachers. Although churches did not openly endorse condom use, the examples of information they provided were not as blatantly anti-condom or false.

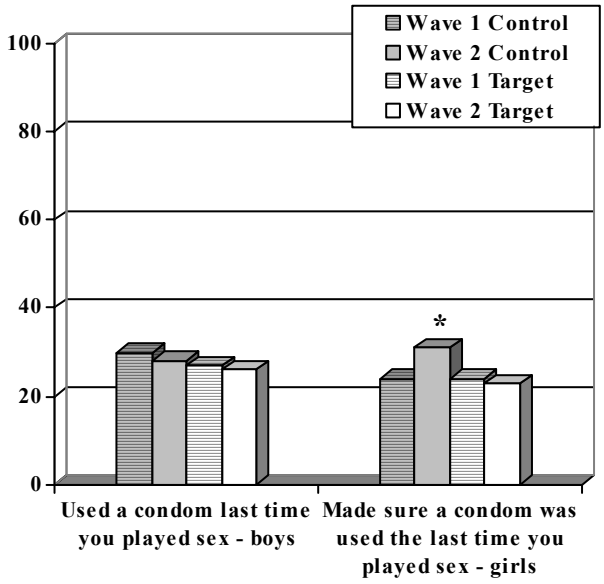
> *They* [pastors or preachers] *tell us condoms are good that we should use them but one pastor told us to trust Jesus…do not trust condoms* (Boys7: 1447-1450).

Q: What do the church elders tell you about condoms?
We are told that young people should not use condoms (Boys1: 1220-1222).

Condom Use

To date, school-based programmes on HIV prevention in sub-Saharan Africa have found it particularly difficult to effect an increase in condom use among sexually active youth. Where changes have occurred, they have only been after many months of programming. Consequently, it was not expected that there would be a change in condom use at this point in the PSABH programme. It is not surprising then that there were no significant changes in the percentage of boys reporting condom use. What was surprising was that significantly more girls in control schools reported condom use at last sex in wave 2 than in wave 1 (see figure below). This result must be treated as tentative since, with the decrease in the proportion of girls who were sexually active it is based on a comparatively small sample of sexually active girls.

Figure R: Percentage of Pupils who are sexually active who:



* increase from wave 1 to wave 2 at $p \leq .01$

Girls are based on 602 wave 1 control, 260 wave 2 control, 623 wave 1 target and 248 wave 2 target.
Boys are based on 733 wave 1 control, 652 wave 2 control, 854 wave 1 target and 702 wave 2 target.

When examining the school-level regression analysis, schools with higher proportions of boys reporting condom use (see Table T, column 19) at wave 2 and those where condom use had increased since wave 1 (see Table U, column 11) were more likely to:

- Have more pupils who responded more negatively to the programming (found it shameful, boring, too difficult);
- Have boys who reported they engaged in sex because of pressure or force; and,

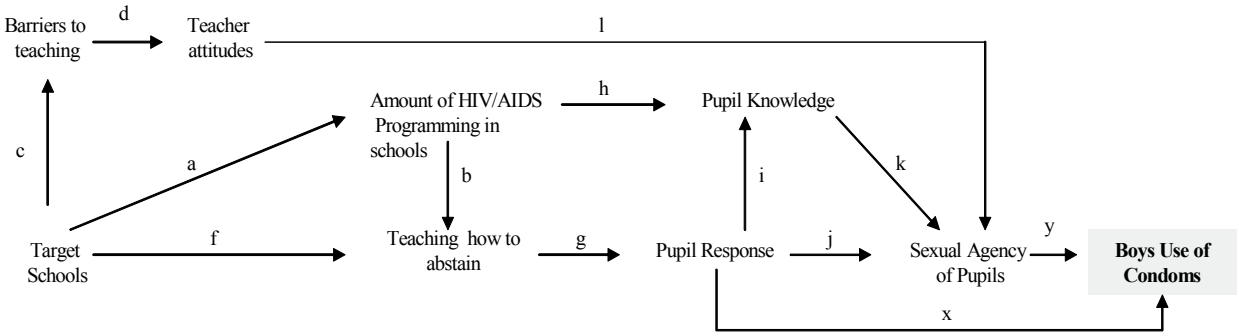
- Less of a church presence in the community.

This suggests that these boys may have been adopting a condom-as-prevention approach rather than an abstinence-as-prevention approach. Perhaps they felt they had no control over playing sex, but did have control over condom use. This would be consistent with less of a church presence and consequently less of an abstinence-as-prevention message in the community.

None of the factors helped explain girls' reports of condom use at last intercourse.

Paths of PSABH Influence on Boys Use of Condoms

The ways in which the various components of HIV/AIDS programming that are present in the schools influenced condom use by boys was examined using path analysis. The diagram below portrays the results of this analysis. Arrows represent where statistically significant influences were found when all factors were taken into consideration. Letters on the arrows correspond with explanations below the diagram[12].



Effect of PSABH Training on Boys Use of Condoms

What the above diagram shows is that being in a target or control school affects boys' use of condoms at last sexual intercourse indirectly through its effect on sexual agency and the various components of HIV/AIDS programming and pupil knowledge.

Schools have higher proportions of boys who report using condoms at last intercourse when they are schools where:

- Pupils have a greater sense of sexual agency (see arrow 'y' above); and
- Pupils respond more positively to the HIV/AIDS programming. (see arrow 'x' above)

The pathways of influence between being in a target compared to a control schools and sexual agency have been explained earlier in this report and are repeated here. Pupils have a greater sense of sexual agency:

- When they are in schools where the response of pupils to the programming is more positive (see arrow 'j' above);
- When they have more accurate knowledge about HIV and AIDS (see arrow 'k' above);

[12] The analyses summarized in this diagram are described in Appendix A (p.). For statistical results used to create this diagram see Table T, columns 19.

- When they are in schools where teachers have more positive and accepting attitudes toward teaching about HIV and AIDS (see arrow ‘l’ above);

Pupils’ knowledge about HIV & AIDS is higher in schools where there is

- A greater amount of HIV/AIDS programming (see arrow ‘h’ above);
- More positive pupils response to the programming (see arrow ‘i’ above).

Greater amounts of HIV/AIDS programming is found in

- Target compared to control schools (see arrow ‘a’ above).

More positive pupil response to the programming is found in schools where there is

- More teaching about how to abstain (see arrow ‘g’ above).

There is more teaching about how to abstain in

- Schools with greater amounts of HIV/AIDS programming overall (see arrow ‘b’ above);
- Target than control schools (see arrow ‘f’ above).

Teachers’ attitudes toward teaching about HIV and AIDS are better in schools where:

- Teachers perceive fewer barriers to teaching about HIV and AIDS (see arrow ‘d’ above).

Finally, teachers perceive fewer barriers:

- In target than control schools (see arrow ‘c’ above).

REMAINING ISSUES

Three questions remain to be addressed:

- Do pregnancy rates provide an external corroboration of pupil claims regarding their sexual behaviour?
- Is there a change in pupils' abilities to recognize that they are at risk?
- Are there some examples of schools that are doing particularly well – i.e. that stand out from the rest?

Pregnancy Rates

Conclusions about programme effects on sexual behaviours are based exclusively on self-reports or claims of sexual behaviour made by pupils in response to survey questions. Focus group discussions provide some confirmation of these reports since the themes identified in focus groups coincided with the themes that emerged from survey data (e.g., in focus group discussions and in-depth interviews at wave 2 there were claims of changes in sexual behaviour that coincided with the changes that began to be evident when comparing wave 1 and 2 survey data).

School reports of the number of pregnancies among standard 6, 7 and 8 girls during 2001 and 2002 were gathered for use as a potentially more objective check on the reports of girls' sexual activity. The reasoning was that if fewer girls were claiming they were sexually active, and/or more boys and girls were claiming condom use, we might expect reports of lower pregnancy rates. What must be recognized, is that reports of pregnancies are also subjective.

Despite a significant and substantial decrease in the proportion of girls in both target and control schools who claimed they had ever played sex (22% at wave 2 compared to 48% at wave 1 reported they had played sex), there were no changes in pregnancy rates between wave 1 and wave 2. This suggests one of three possibilities:

- Girls' reports of their sexual activity may be inaccurate with more girls engaging in sex than admitted doing so at wave 2 and/or fewer girls engaging in sex than claimed to in wave 1.
- Pregnancy counts may be inaccurate, particularly since they are the number of known and suspected pregnancies that are reported by the head teacher to the zonal inspector. Head teachers may underestimate the number of pregnancies if they feel that pregnancies among schoolgirls are an indication of poor school management. Alternatively, pregnancies may be kept secret from head teachers.
- Pregnancy rates may not be a good indicator of sexual activity levels; for example, some youth may be successful in preventing pregnancy or the changes in sexual activity may not be sufficient to produce changes in pregnancies.

In regression analysis, only one factor was found to influence pregnancy rates. The higher SES level of the school, the lower the wave 2 pregnancy rates were. Although this effect was statistically significant, it was slight (see Table T, column 21).

Table 2: Pregnancy Rates for 2001 and 2002 as Reported to Zonal Inspectors by Head Teachers

	Proportion Girls in the Grade Reported to be Pregnant	
Pregnancies	**Wave 1**	**Wave 2**
Standard 6	.05	.03
Standard 7	.10	.06
Standard 8	.11	.07
Standard 6, 7 and 8	.08	.05

To compare similar groups of girls, comparisons should be drawn between one lower standard in wave 1 than wave 2 (i.e. wave 1 Standard 6 and wave 2 Standard 7).

For a more detailed report on pregnancy data see Appendix C.

Estimation of Risk

A sense of the risk or safety of one's sexual behaviours can have a sizable influence on whether behaviours to reduce risk are taken up. Pupils' actual sexual and condom use behaviours together with their personal assessment of their level of risk for HIV infection were combined to create a measure of how accurately youth were assessing their own risk.

Most sexually active youth underestimated their risk (64%). Accurate estimation of sexual risk appears to be related to knowledge with schools where pupils have higher scores on the HIV/AIDS knowledge scale and find the programming more useful, having lower proportions of pupils underestimating their risk. HIV and AIDS programming had no effect on whether or not pupils underestimated their own risk (see Table T, column 22).

However, for both risk estimation and changes in risk estimation from wave 1 to wave 2, it was primarily sexual and condom behaviours which had an influence. Schools where more youth were sexually active and where fewer were using condoms had higher proportions and greater increases in the proportions underestimating their risk. In addition, where HIV/AIDS knowledge had *increased* among youth, and where youth felt surrounded by pressures to play sex there was an increase in youth underestimating their risk. These results are exactly in the opposite direction to that desired – instead of recognizing their risk youth appear to be denying it, perhaps as a mechanism to keep the specter of AIDS as far removed as possible from their consciousness.

"Best" Schools

While we can learn a great deal from analyses using large samples of schools, pupils and teachers, there is also much to be learned by taking a closer look at those schools which appear to be performing "best" or at the "top" on key PSABH indicators. In order to do this schools scoring in the top 10% on any of 13 key indicators six were selected[13]. Each

[13] Overall teacher knowledge, overall pupil knowledge, avoidance knowledge (pupils), pressure, force, commitment to abstinence, helped a friend avoid a situation that may have led to playing sex, pursuit of information, sexual debut, recent sexual activity, condom use, and refusing an offer to play.

school was then given an overall rank based on the number of indicators on which they scored in the top 10%.

Based on this ranking 8 schools were selected as "top" or "best" schools. Of note is that none of the schools included in the evaluation scored in the top 10% on all of the indicators. Of the 8 schools selected as "top" or "best" schools:

- 5 were target and 3 control schools; and,
- All of these schools scored in the top 10% on 4-6 of the 13 indicators.

The top schools appear to be doing best on a cluster of variables. These include:

- Pupil overall knowledge;
- Pupil knowledge about how to avoid HIV infection;
- Pupils' sense of agency with respect to sexual activity; and,
- Pupils' commitment to abstinence (see Table V).

A select few of these schools deserve mention for scoring in the top 10% on variables of particular interest. These include:

- Nyamonuri with the lowest and best score (1.1%) on the percentage of pupils who initiated playing sex during the PSABH programme.
- Nyandoche where 80% of boys reported condom use at last sex.
- Pace Academy and Kaduro which had no pupils reporting recent sexual activity.

These 8 schools were then selected out from the original database and examined further on other key variables. It was found that, compared to the mean or average scores for the full 160 schools, almost all of the top schools had:

- Higher KCPE scores;
- Higher school SES;
- Higher teacher/pupil ratios;
- Teachers with more positive attitudes towards teaching about sex and HIV/AIDS;
- Teachers who cited fewer barriers to teaching about sex and HIV/AIDS;
- Higher teacher and pupil implementation scores;
- Pupils who rated the programme more positively; and,
- Higher overall impact score (see Tables W and X).

These results support and, in fact, highlight the results presented on the full 160 schools:

- More target schools (i.e. PSABH trained) are doing well than are control schools;
- Where implementation of the HIV/AIDS programme is high, outcomes tend to be in the desired direction; and,
- Schools that are doing best in desired outcomes are not only doing well in implementation of the programme but also have a more 'privileged' profile in terms of school characteristics (e.g., more teachers, better resourced, higher KCPE scores).

PSABH COMPARED TO OTHER SSA SCHOOL-BASED PROGRAMMES

Gallant and Maticka-Tyndale (in press) in "School-based HIV prevention programmes for African youth" compared 11 evaluated school-based HIV/AIDS prevention programmes from sub-Saharan Africa. Programmes were compared for content, method and results. Five were in primary and 6 in secondary schools. The question addressed here is: *How does PSABH compare to these programmes?* Answering this question is difficult since a direct comparison between PSABH and other programmes in sub-Saharan Africa cannot be made for three reasons:

1. Differences in programme design, implementation and evaluation;
2. Extraneous and uncontrollable factors that influenced uptake of PSABH;
3. The presence of considerable HIV and AIDS programming in control schools.

Differences in design, implementation and evaluation between PSABH and other programmes in Sub-Saharan Africa.

There is only one programme reviewed in the Gallant and Maticka-Tyndale article that shares enough content and method with PSABH to draw a meaningful comparison. This is the Ugandan programme evaluated by Shuey et al. (1999) in which HIV/AIDS teaching and activities were infused and integrated throughout curricular and co-curricular activities.As with PSABH, there was no set time period, amount of time, or duration for the programme since it was expected to be present across the curriculum and to remain active over time. In all other reviewed programmes there were either:

- Specific, limited activities brought to the school (e.g., a drama production, board game, specific class); and/or,
- The programme was designed to be taught in a limited number of hours (most typically 20 hours total).

This makes all other programmes more limited in scope and easier to monitor, test and evaluate. Because PSABH and the Ugandan programme are more diffuse, they have greater potential for success in changing pupil attitudes and behaviours, but they are also:

- More difficult to implement,
- Take longer to get "up and running"; and,
- Their effect on pupil attitudes and behaviours is likely to
  - Be more diffuse;
  - Follow indirect pathways of influence; and,
  - Take longer to evidence.

Note that the Ugandan programme was not evaluated until it was in place for 24 months.

<u>Extraneous and Uncontrollable Factors which influenced PSABH implementation and uptake</u>

There is no evidence of major disruptions in implementation of any of the other programmes; whereas, PSABH was disrupted by a teachers' strike and influx of new pupils. Consider the dates below:

Teacher Training Completed	Programme in Schools	Data Collected for Evaluation
Course A – April 2002	May-July 2002 (3 mos)	SRS/CRS August 2002
Course B – August 2002	September 2002* (1 mos)	Teacher & Pupil surveys – Feb 2003**

* Teachers on strike October – early November 2002, remainder of November disrupted with campaigning for election and 'catch-up' to prepare for KCPE exams.
**Average 30-40% increase in pupils in STDs 6 &7 in January, 2003 with announcement of free primary education. No immediate increase in teachers or teaching resources.

In effect, the data collected in February 2003 primarily reflected HIV/AIDS programming for May-July and September of 2002. Although it was collected 6 months after Course B was completed, considering that it takes time to get a programme started and colleagues trained, the HIV/AIDS programming was more likely to have had 3-4 months of actual implementation in the schools. It was made clear in the qualitative interviews that HIV/AIDS programming was disrupted after September and only began to come back to the desired level in February 2003.

Extent of HIV/AIDS Programming Present in Control Schools

A lot of HIV/AIDS programming has been taking place in the control schools and in all communities served by PSABH. Kenya in 2002 and 2003, and Nyanza Province in particular, appears to be at a more advanced stage of general programming on HIV and AIDS than were the other countries where school programmes were implemented in the early to mid-1990s. As a result, more overlap is seen between target and control schools for targeted outcomes in PSABH than in other programmes. In PSABH, target schools are often "better" than controls, but in many cases this is not yet statistically significant because controls have also taken steps to implement HIV/AIDS education.

What *can* we say about PSABH relative to these other programmes?

Recognizing the above limitations to drawing comparisons between PSABH and other school-based programmes evaluated in SSA, several tentative conclusions *can* be drawn.

Communication

All programmes that targeted and measured communication about HIV and AIDS found an increase. PSABH produced a similar increase.

Knowledge and Attitudes

There were mixed results with respect to changing knowledge and attitudes related to abstinence, condoms, and general information about HIV and AIDS in other school-based programmes. We have not yet seen changes in knowledge and attitudes among pupils in target schools.

Behaviours

Sexual Debut

Two programmes produced a reduction in pupils initiating sexual activity. The Ugandan programme evaluated by Shuey et al. (1999) found a reduction when comparing sexual initiation before the programme and among pupils who had been part of the programme for 24 months. A secondary school programme in Namibia evaluated by Stanton et al. (1998) found no changes in sexual debut at the immediate and 6 month evaluations, but did find that fewer *girls* reported sexual initiation once the programme had been in place for 12 months. This programme was a limited, after-school delivered by trained (40 hours training) teachers and out-of-school youth.

For the PSABH programme, there has been a significant decrease in girls in both target and control schools reporting sexual debut. This differs from both the Ugandan and Namibian programmes where there was no change in sexual debut in control schools. However, there was also no or minimal HIV/AIDS programming in control schools in these other programmes; whereas, there is considerable overlap in the amount of programming in target and control schools in out sample.

Condoms

All but two of the programmes reviewed by Gallant and Maticka-Tyndale reported problems with teaching about condoms. In one case (Kinsman et al. 2001), the evaluators reported that the information about condoms contained in the programming worked against implementation of the programme and, consequently, the programme was actually implemented in very few of the targeted communities. In other cases, community and school resistance to including information about condoms led to these portions of the curriculum being dropped. Two programmes did include condom information. One was an after-school programme delivered by a physician and teacher(s) in secondary schools in Nigeria (mean age 17-18 years) (Fawole et al. 1999), the other was a programme that used drama to deliver and teach about HIV and AIDS (including about condoms) to STD 8 pupils in South Africa (mean age 17.6 years) (Harvey et al. 2000). Only the latter programme recorded an increase in condom use among pupils 6 months after the programme was in place.

Condoms proved to be a difficult topic in the PSABH schools. From the SRS results it was evident that teachers were struggling with what to say and consequently were relying primarily on an abstinence message. The CRS results showed that condoms were not an acceptable message in the communities either. At 6 month evaluation the struggles continued. Where information about condoms was communicated to pupils it was almost exclusively negative information designed to discourage condom use and push pupils to see abstinence as the only method to keep themselves safe.

While it is difficult to draw direct comparisons between PSABH and other school-based programmes in SSA, when considering the very short period of time for implementation, the level of HIV/AIDS programming in control as well as target schools, and the diffuse nature of PSABH programming in the schools, the evaluation results are probably as promising as those from other programmes.

CONCLUSIONS

The effect of PSABH on HIV and AIDS programming in schools and HIV/AIDS related knowledge, attitudes and behaviour of pupils is a complex one with many complementary and countervailing forces at work. AIDS is present in all communities that participated in this study. This has brought a response from churches, communities, schools, and outside organizations especially with respect to programming for youth. The presence of such widespread programming, combined with a teachers' strike, teacher transfers between schools, and the influx of large numbers of previously unschooled or minimally schooled youth has complicated the evaluation of PSABH. What has come with this complication, however, is the realization that the conditions under which PSABH has operated during its evaluation in all likelihood closely mirror the *real-life-conditions* that exist in Kenyan schools.

What is hoped for when using an experimental design for programme evaluation is that the control group will remain relatively naïve to the kind of programming that is taking place in target or experimental schools and that the programming in target schools will proceed with minimal interference and in close approximation to its design. While an experimental design can accommodate a certain degree of divergence from these expectations, when the divergence is extreme and of a type that is likely to affect programme implementation, responses to programming, and targeted outcomes, straightforward comparisons of target and control groups over several time-points provide an incomplete picture of how the programme is faring. More elaborate data analyses are thus required in order to identify the avenues or channels through which the programme operates.

Recognizing the number of ways in which practical conditions have made the implementation and evaluation of PSABH diverge from its original design, more complex data analysis procedures were used together with triangulation of several forms and sources of data in order to begin to capture the complexity of programme effects. Not only were statistical tests conducted to identify differences between target and control schools and changes from wave 1 (pre-programme) to wave 2 (6 months after completion of teacher and community representative training), but regression analyses were also used to develop a picture of how various programme components worked together and of the channels through which PSABH and HIV and AIDS programming influenced pupil knowledge, attitudes and behaviours.

The picture that emerged from the analyses conducted on survey data and from interviews and focus groups is one of a complex interrelationship between various components of HIV and AIDS programming in schools, pupil and teacher response to and perceptions of school programmes, and the knowledge, attitudes and behaviours of pupils. At times the effect of PSABH is a direct one as is evident in statistically significant differences between target and control schools and significantly greater changes in target than control schools across the two waves of data collection. At other times the effect is indirect, with PSABH training initiating a chain of activities and responses, which eventually produce effects on knowledge, attitudes or behaviour. Such

indirect effects are generally weaker than direct ones since they must work through and they are influenced by other factors. Thus, as illustrated in the graphs on page 23, some control schools had as much or more HIV and AIDS programming in place as the average target schools. In these control schools there were no differences in the outcomes that were affected by this programming from those found in the average target schools. Through identifying the indirect effects and tracing the pathways of influence of various components on each other a more realistic picture is produced of how influences operate.

From the statistical and textual analyses performed so far there is confirmation that:

- All schools have increased HIV and AIDS teaching and activities.
- Target schools have significantly more activities and use more resources related to HIV and AIDS than do control schools.
- Teachers in target schools see fewer barriers and consequently have better attitudes toward teaching about HIV and AIDS.
- In schools where teachers are specifically addressing how to resist pressures to play sex, pupils rate the programming more positively.
- There is a strong focus on abstinence as the only acceptable and trustworthy method of preventing transmission of HIV.
- Pupils communicate with family and other community members and independently pursue information about HIV/AIDS significantly more in target than control schools.
- Pupil knowledge, perceptions of control or agency with respect to their sexual decisions, delay of initiation of first sexual intercourse (sexual debut), and condom use among boys are indirectly influenced by PSABH. This influence is directed through PSABH's influence on the presence of HIV and AIDS programming and activities in the school, teacher attitudes and perceptions of barriers toward teaching about HIV and AIDS and pupil responses to the programming.

In addition to mapping the pathways of influence of PSABH and of HIV and AIDS programming in schools, the analyses also identified three school and community factors which both influenced programming in schools and the outcomes of pupil knowledge, attitudes and behaviours. School ethnic composition, school resourcing (as measured by the school's SES, teacher/pupil ratios), and the presence of church influence in the schools and church programming on HIV and AIDS in the community, each influenced pupils and schools independently of the influence of PSABH. These continuing school and community factors suggest that PSABH is likely to continue to have different effects in different communities based on ethnic and cultural factors, school resourcing and influence and position of churches with respect to HIV, AIDS and sexuality.

Taking all sources of data into account it is clear that schools have faced many challenges during this first year of the PSABH programme. Not only did target schools have to free up staff to attend PSABH training sessions and subsequently train entire teaching staffs before implementing the programme, but they, together with the control schools, also faced a lengthy teachers strike and an influx of many new pupils. Of note is that despite these challenges, implementation of HIV/AIDS programming has begun in both control

and target schools, however, significantly more so in target schools. Such programming is influencing pupil knowledge, attitudes and behaviours, but the effects are still small with many of them indirect and only beginning to be seen. Time will tell whether changes continue in the desired directions and become more evident in target than control schools.

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School-based Programmes in sub-Saharan Africa Used for Comparative Purposes

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APPENDIX A: METHODOLOGY DETAILS

Quasi-experimental, multi-stage, stratified, disproportion random sampling was used to select schools to participate in this research.

Sampling Procedures

- Stratification of schools by district and academic performance was established in the following steps:
  - 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 pupils using mean scores attained on annually conducted, standardized national examinations (KCPE exams).
  - Four lists of schools were established for each zone. These comprised four separate sampling frames:
    - Potential target schools – to receive PSABH programme:
      - top performing school overall, -i.e. top in the top third (referred to as top target).
      - top performing school in the bottom performance third (referred to as bottom target).
    - Potential control schools – not to receive PSABH programme:
      - second highest performing school overall –i.e. 2nd in the top third (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;
  - The number selected in each district was approximately proportional to the number of zones in the district; and,
  - Equal number of target and control in each of top and bottom groups in each district.
- Sixteen of the 160 schools in the full sample were chosen for in-depth qualitative data collection in wave 1. School selection ensured equal representation across target and control groups, ethnicity, and schools whose pupils scored at the top and bottom of standard academic evaluations (KCPE exams). The 16 schools comprised:
  - 8 target and 8 control schools;
  - 8 schools with predominantly Kisii and 8 with Luo pupils; and,
  - 8 top and 8 bottom performing schools.

Beyond this breakdown, schools were selected to maximize diversity and with attention paid to feasibility of access. To be eligible for selection schools had to:

- Have enough boys or girls in standard 7 and 8 to provide at least 5 boys or 5 girls for a focus group discussion; and,
- Be accessible to the research team which had to transport equipment from a central location to the school.

Four (two Kisii and two Luo) of the 8 target schools were selected based on ease of accessibility to participate in in-depth, wave 2 data collection.

The target/control status of each of the 160 schools selected for this study was reviewed using attendance records from training sessions, zonal inspector reports based on school visits, and self-reports of teachers in the schools. For purposes of analysis, control schools for which it was possible to confirm attendance of at least 2 teachers at training sessions were reassigned to the target group and target schools for which there was no evidence of teacher training were reassigned to the control group. This resulted in two target schools being reclassified as control and 4 control schools as targets. The final analysis is based on 82 target and 78 control schools.

Data Collection:

- All pupils in Standards 6 and 7 and, in most cases, two teachers (head teacher and preferably a senior female teacher) in each of the 160 selected schools were invited to complete surveys at wave 1 (November 2001) and wave 2 (February 2003). At wave 2, the head teacher in one school did not permit pupils to participate in data collection. At both waves of data collection, teachers in two schools (not the same schools at each wave) refused to complete surveys. This produced pupil self-completion surveys in 160 schools in wave 1 and 159 in wave 2 and teacher self-completion surveys in 158 schools in wave 1 and 2.
- Zonal Inspectors were trained to complete School and Community Responsiveness Surveys in each of the 160 schools based on personal observations and conversations with teachers, pupils, and community members. School Responsiveness surveys were completed in 159 schools and Community Responsiveness in 158 communities.
- Zonal Inspectors were trained to collect pregnancy data based on interviews with teachers for all 160 schools. Pregnancy data were collected in 156 schools.
- At wave 1, semi-structured, in-depth interviews were conducted at each of the 16 selected sites. Interviewed were:
  - 1 head and 1 senior teacher with an attempt made to ensure at least one interview was with a senior female teacher; and,
  - The chief or assistant chief and the head of the women's group or otherwise recognized influential woman in the community served by the school.

  In addition, a focus group was conducted with either 5 boys or 5 girls from standard 7 and 8. Participants for focus groups were selected on the advice of teachers based on their willingness to talk about issues related to HIV/AIDS and sexuality.
- At wave 2, semi-structured, in-depth interviews and focus group discussions were conducted at each of four selected sites in the same manner as wave 1 except that two focus groups were held at each site (one with boys and one with girls).
- All survey instruments and interview schedules can be found in Appendix A.

It must be noted that not all data were collected for each data collection instrument in all schools. Reasons for missing data included: teacher refusal to have pupils participate in data collection, teacher refusal to participate in survey completion, oversight or misunderstandings on the part of zonal inspectors or Steadman Research staff with respect to which schools were scheduled for data collection, or difficulty in accessing a school at a particular time. Table 2 summarizes the number of schools and the number of individual participants for whom data were collected with each instrument at each wave.

Table 6: Final Samples for Data Analysis

	Number of Schools		**Number of Pupils, Teachers, or Community Members Responding**	
Database	**Target**	**Control**	**Target**	**Control**
Wave 1				
Pupil Survey* (PSC)	82	78	3420	3381
Teacher survey (TSC)	82	76	218	222
Teacher interviews	8	8	16	16
Community interviews	8	8	16	16
Pupil Focus Groups	8	8	40**	40**
Pregnancy Data	80	76	--	--
Mid-Wave				
School Responsiveness (SRS)	81	78	--	--
Community Responsiveness (CRS)	81	77	--	--
Wave 2				
Pupil Survey* (PSC)	81	78	3133	3266
Teacher survey (TSC)	80	78	154	160
Teacher interviews	4	0	8	0
Community interviews	4	0	8	0
Pupil Focus Groups	4	0	40**	0
Pregnancy Data	80	76	--	--

Notes: Based on final ranking of schools as control or target.
* Only pupils 11-16 years of age; in wave 2, only pupils who reported attending school in 2002.
** 20 boys, 20 girls in 4 focus groups for each gender

Measures

Following are descriptions of the variables used in the multivariate analyses. Details of the exact coding and combination of survey questions to create each variable are contained in Volume II in the coding guides.

School and Community Characteristics

Characteristics of schools and communities were drawn from data obtained through the SRS and CRS and by aggregating pupil or teacher responses provided on Self-

Completion surveys. The following school characteristics were examined as potential influences on uptake or results of the PSABH programme:

- Level of school resources or school SES – this indicator was created based on information on structural facilities such as classroom space, windows, desks;
- Mean KCPE scores of pupils in each school;
- Level of staffing as reflected in teacher/pupil ratios;
- Religious sponsorship of schools;
- Proportion of Catholic or Protestant pupils and teachers in each school;
- Rural compared to urban/peri-urban schools; and,
- Dominant ethnic group of pupils within the school (based on 90% of pupils claiming a particular ethnic affiliation).

Table 7: School Profiles

Mean scores across all schools	Range	Control	Target
School SES (1-100)	40-90	54.85	54.53
KCPE Score	18-509	288.17	275.87
Teacher/pupil ratio	.01-.15	.04	.03
% rural schools	-	77%	83%
% Catholic sponsored	-	28%	40%
% Protestant sponsored	-	51%	52%
% pupils who are Catholic	5-100	53%	56%
% pupils who are Protestant	5-100	49%	46%
% teachers who are Catholic	20-100	39%	42%
% teachers who are Protestant	20-100	67%	69%
% schools with 90% Kisii pupils	-	37%	28%
% schools with 90% Luo pupils	-	54%	57%

To test the potential influence of churches on uptake or outcomes of PSABH, the following indicators of church activity were established using the CRS:

- Number of churches in the community;
- Number of churches in the community reported to have held meetings on HIV and AIDS:
  - Number of Roman Catholic churches holding meetings;
  - Number of mainline Protestant churches holding meetings;
  - Number of Breakaway or Traditional churches holding meetings.
- HIV/AIDS lessons from churches
  - Responses to open-ended questions asking about the most important messages taught by churches about HIV and AIDS were coded: 1= slogans or messages with no relationship to the programme; 2= general messages about HIV and AIDS; 3= general transmission and prevention information; 4= personal "future-oriented" messages; 5= personal "present-oriented," youth messages; 6= personal, condom messages.
  - Responses to open-ended questions asking what churches taught about condoms were coded: 0= no messages about condoms; 1= anti-condom messages or misinformation about condoms; 2= impersonal messages about condoms or messages supporting abstinence rather than condom

use; 3= conditional approval of condom use; 4= personal messages supportive of condom use.

Two additional community characteristics were used as indicators of the amount of HIV/AIDS related activity that was taking place in the community and the community's openness to condoms. These were:

- The content of messages about HIV or AIDS that had been part of community festivals or celebrations; and,
- The number of places in the community where condoms were available.

Table 8: Community Profiles

Mean number (or score) in each community	Range	Control	Target
Churches	1-9	3.55	3.40
Churches with HIV meetings	0-10	2.22	2.22
Catholic churches with HIV meetings	0-1	.63	.51
Protestant churches with HIV meetings	0-5	1.15	1.30
Breakaway/Traditional churches with HIV meetings	0-4	.45	.41
Score for HIV/AIDS lessons from churches*	0-5	4.87	4.64
Score for Condom messages from churches*	0-4	1.97	2.10
Score for HIV message in community festivals*	0-5	2.64	2.86
Places where condoms available	0-3	1.14	.95

* higher scores indicate messages directly relevant to prevention and behaviour change for prevention

For school-level analysis, measures of programme implementation and general response to the programme were drawn from the SRS and the TSC and PSC. Composite measures were created based on questions about the presence of activities encouraged in the PSABH training. These measures served two purposes. First, they provided a way to assess the degree to which various programme components were actually implemented. Second, recognizing that variations in participation in PSABH training and the transfer of teachers could affect the presence of PSABH promoted activities and that CfBT was not the only organization working to bring HIV/AIDS programming into schools, these measures provided a way to assess the degree to which HIV/AIDS programming was present in schools.

Measures of Programme implementation/response

Measure	Description
From SRS	
Global SRS uptake	Presence and frequency of use of all components of PSABH and desirability of various 'messages'. (10=presence of all possible components to the maximum possible degree and most desirable messages, 0= absence of any components)
Most important lesson	Zonal Inspector replies on open-ended questions asking what community members reported to be the most or second most important message for pupils to receive about HIV and AIDS. (0= no information or information irrelevant to programme, 1= slogans, 2= general messages at

	the societal level, 3= general transmission and prevention information, 4= general behavioural messages and messages about positive attitudes, 5= messages about abstinence for youth, 6= pro-condom messages)
PSC & TSC	
Implementation	Two separate scales for teachers and pupils. Summation of all questions on the TSC and PSC about the presence and (where applicable) the frequency of use of components of PSABH . Items included: presence of question box, information corner, school health club, various books, teaching about HIV/AIDS in specific subjects. (0=no implementation, 10=all items implemented).
Teacher Attitudes	Summation of teacher responses to questions tapping their attitudes toward teaching about HIV and AIDS (e.g., teaching young people that condoms give protection only encourages sexual activity, the more information we give young people the better). (0=least favourable attitudes, 10=most favourable attitudes)
Barriers	Teachers' perceptions of practical barriers to teaching about HIV and AIDS (e.g. insufficient time, resources or training, parent objection, pupil shyness). (0= presence of all barriers to the maximum degree possible, 10= absence of any barriers)
Usefulness Evaluation	Pupil evaluation of what they had learned as helpful, useful, etc. (0=no positive evaluations, 10=all positive evaluations received maximum score)
Affective Evaluation	Pupil evaluation of what they had learned as shameful, boring, difficult to understand (0=all negative evaluations received maximum score, 10=no negative evaluations received endorsement)
Abstinence lessons	Two separate scales for whether teachers reported teaching and pupils reported receiving lessons on how to resist playing sex, controlling bodily urges, resisting pressure from friends, girl/boyfriend, an older partner (0=no such lessons, 10=all lessons)

These measures provided indicators of the level or degree of programme implementation and teacher and pupil response.

Knowledge

The chart below summarizes the number and content of knowledge measures developed from responses to questions in PSC and TSC surveys. Several topical subsets of the total knowledge measure were created in order to tap different types of knowledge. Consequently, some questions were used in several of the measures of knowledge. For example, condom questions were included in the total knowledge scale, the condoms for prevention scale and the prevention of transmission scale.

Table 9: Areas of Knowledge and Number of Questions for Each

	Pupil Self-Completion		Teacher Self-Completion	
Area of Knowledge	**Wave 1**	**Wave 2**	**Wave 1**	**Wave 2**
Total Knowledge (all items)	22	22	13	12
STD-HIV Relationship	4	4		4
HIV Testing	3	3		3
Infectivity of People with HIV		5	3	3
Knowledge re Sexual Transmission		4	3	3
Condoms for Prevention		4		
Prevention of HIV Transmission	8	8		

Attitude Measures

Measure	Description
Pressure	Summation of all items that inquired whether pupils had ever experienced various forms of pressure or force to engage in sex. (0=never experienced any, 10=experienced all)
Forced sex	Summation of all items that inquired whether pupils had ever engaged in sex because of various forms of pressure or force. (0=never engaged in sex in response to any pressures/force, 10=have engaged in sex in response to each of these pressures/force)
Commitment to abstinence	Summation of items that inquired about intentions or actions that pupils had taken in order to avoid playing sex (e.g. refused, avoided going somewhere, could tell boy/girlfriend to wait until marriage, could have a boy/girlfriend for a long time and not play sex) (0=no intentions or actions to insure abstinence, 10=endorsed all intentions and have engaged in all actions to insure abstinence)
Underestimated risk	Actual risk is adjudged to be higher than perceived risk when respondents are sexually active and do not use condoms but rate their risk as absent or low (0 = not underestimated, 1 = underestimated)

Measures of Communication

Measure	Description
Talk to female relatives	Summation of all items indicating if pupils prefer or have talked to female relatives about HIV/AIDS. (0= neither preferred nor have talked to any female relatives, 10= preferred and have talked to all possible female relatives)
Talk to male relatives	Summation of all items indicating if pupils prefer or have talked to male relatives about HIV/AIDS. (0= neither preferred nor have talked to any male relatives, 10= preferred and have talked to all possible male relatives)
Talk to other	Summation of all items indicating if pupils prefer or have talked to community members who are not relatives about HIV/AIDS. (0= neither preferred nor have talked to any community members, 10= preferred and have talked to all possible community members)

Measures of Actions Taken

Measure	Description
Pursue information	Summation of all items about seeking out information about HIV/AIDS. (0=not pursued any information, 10=indicated pursuit of each kind of information)
Single item measures:	
Help friend	Whether pupils reported having helped a friend avoid playing sex (coded 0=no, 1=yes)
Refuse to play sex	Whether pupils had refused to play sex in the past one (wave 1) or three (wave 2) months (0 = not refused; 1 = refused).
Avoid situations	Whether, in the past 3 months, pupils had avoided situations specifically because they wanted to avoid being pushed or forced into playing sex. (0 = not avoided; 1 = avoided)
Sexual debut	For pupils who were virgins as of January 2002, whether they had initiated playing sex by the time of the survey – i.e. during the year when PSABH was being implemented in the schools (0=no, 1=yes).
Recent sex	For pupils who were not virgins, whether they had engaged in sexual activity in the previous 3 months, i.e. during the programme (0=no, 1=yes)
Condom use	Whether condoms were used at last intercourse (0=no, 1=yes)

Change Scores

For school-level data, change scores were calculated that comprised the difference between the measure at wave 1 compared to wave 2. These scores provided an indicator of the amount of change within the school from pre-programme data collection (wave 1) to data collection 5 months following completion of Course B (wave 2).

Data Analysis

Data Checking

Data were checked for reliability and validity prior to conducting data analysis. Data checking included the following steps.

- Responses to all questions were tested for construct validity by comparing responses on logical sequences or combinations of questions.
- Scales were created and tested using principal components factor analysis and analysis of internal validity using Cronbach's alpha. Construct validity was tested using correlations among similar indicators or indicators with well-established relationships.
- Frequency distributions were examined to assess the suitability of variables for use in t-tests, analysis of variance, and regression analyses.

Testing for Significant Gains in Target Schools

Analysis to determine whether PSABH produced significant changes in target compared to control schools consisted of examining the size and direction of change for each variable of interest and then using t-tests to determine whether the size of the change in

target schools was significantly greater than that in control schools. Change scores were used in these analyses.

For changes in pupils' scores, controls were imposed for:

- Gender of pupils;
- Whether pupils were virgins or sexually experienced; and,
- Standard of pupil.

These established whether PSABH had differential effects for different groups of pupils.

Factors Influencing Uptake, Vulnerability and Response to HIV/AIDS

Hierarchical multivariate regression analyses were used to develop a profile of the uptake of PSABH in schools, factors that influenced greater or lesser programme implementation, and the influence of school uptake on knowledge, attitudes and behaviours. These analyses used aggregated measures from the PSC and TSC together with measures from the SRS, CRS and pregnancy data combined in a school-level database and provided analyses of schools rather than individuals.

Procedures for Hierarchical analyses

Variables were clustered into blocks based on the concepts they represented, the time-ordering of their influence (e.g., programme implementation precedes outcomes), and analysis goals (e.g., a primary goal was to establish whether there were differences between target and control schools). Blocks of variables were then entered sequentially into regression analyses to establish whether and how various blocks influenced programme uptake and outcomes. The sequence of steps below provide an overview of each set of regression analyses and the blocks of variables that were entered. The series was conducted for both the wave 2 scores and the change scores (where these were available) to establish which blocks and individual variables influenced both the results at wave 2 and the amount of change between waves 1 and 2.

In order to explain (dependent variable)	Blocks of variables entered
Teacher attitudes and teaching barriers	1. Target/control 2. School & community characteristics
Teacher & pupil implementation scores	1. Target/control 2. Teacher attitudes & barriers 3. School & community characteristics
Teacher & pupil scores on teaching how to abstain	1. Target/control 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; global SRS; most important lessons 4. School & community characteristics
Pupil responses to programme: usefulness & affective evaluation	1. Target/control 2. Teacher attitudes & barriers 3. Teacher & pupil implementation;

	global SRS; most important lessons 4. Teacher & pupil teaching abstinence 5. School & community characteristics
HIV/AIDS Knowledge: Teacher total knowledge scores	1. Target/control 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; global SRS; most important lessons 4. Teacher & pupil teaching abstinence 5. Pupil responses to programme 6. School & community characteristics
HIV/AIDS Knowledge: Pupil total knowledge scores	1. Target/control 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; global SRS; most important lessons 4. Teacher & pupil teaching abstinence 5. Pupil responses to programme 6. Teacher knowledge 7. School & community characteristics
Communication and Information: With female relatives, with male relatives, with other community members, pursuing information	1. Target/control 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; global SRS; most important lessons 4. Teacher & pupil teaching abstinence 5. Pupil responses to programme 6. Teacher & pupil knowledge 7. School & community characteristics
Pupil attitudes related to sexual behaviour	1. Target/control 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; global SRS; most important lessons 4. Teacher & pupil teaching abstinence 5. Pupil responses to programme 6. Teacher & pupil knowledge 7. Communication & Pursing information 8. School & community characteristics

Sexual Behaviours of pupils: debut in past year, sex in past 3 months, help a friend, recently refused to play sex and avoiding going somewhere	1. Target/control 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; global SRS; most important lessons 4. Teacher & pupil teaching abstinence 5. Pupil responses to programme 6. Teacher & pupil knowledge 7. Communication & Pursing information 8. School & community characteristics
Condom use by boys and girls	1. Target/control 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; global SRS; most important lessons 4. Teacher & pupil teaching abstinence 5. Pupil responses to programme 6. Teacher & pupil knowledge 7. Communication & Pursing information 8. Sexual behaviours or pupils 9. School & community characteristics
Pregnancy rates	1. Target/control 2. Teacher attitudes & barriers 3. Teacher & pupil implementation; global SRS; most important lessons 4. Teacher & pupil teaching abstinence 5. Pupil responses to programme 6. Teacher & pupil knowledge 7. Communication & Pursing information 8. Sexual behaviours or pupils 9. Condom use 10. School & community

The R^2 statistic for each block of variables, the standardized and unstandardized coefficients for each individual variable, and tests for multicollinearity were examined to establish the appropriate interpretation of regression results.

Analysis of Textual Data

There were five steps in the analysis process:

(1) All textual data was read and coded based on the original interview/focus

group questions.

(2) Sections from all interviews dealing with the same topics were read to develop an understanding of the topics from the perspective of different community members.
(3) Summaries based on these topics were prepared.
(4) As cross-cutting themes began to emerge from the data, text was re-read and re-coded into thematic groupings and the themes and connections between them were elaborated.

Once the qualitative data had been 'mined' in this way, it was compared to results from teacher, pupil, school responsiveness and community responsiveness surveys.

Triangulation

Two modes of triangulation of data were used:

(1) Results of analyses of each form of data collection were used to inform the next form of data collection.

Data collected in wave 1 surveys were used to create guides for in-depth interview and focus group discussions. Results from analyses of the in-depth material were used to create questions for the SRS and CRS. Results from analyses of the in-depth materials were used together with results from the SRS and CRS, to revise and add questions to the wave 2 PSC and TSC. In this way, each form of data informed the next wave of data collection and further tested conclusions drawn based on earlier waves of data collection.

(2) All forms of data were combined in developing the analysis and conclusions in this report.

APPENDIX B: TABLES

This appendix contains tables that support results provided in the main body of the report. The letter used to identify each table (i.e. Table A) is identical to its corresponding figure in the body of the report (i.e. Figure A). Unless otherwise indicated in the table footnotes, results marked as significantly different are those where the wave 2-1 increase or decrease is significantly different for target compared to control schools. Positive results in the Wave 2-1 columns indicate an increase from wave 1 to 2; negative results indicate a decrease. The size of the values in the Wave 2-1 columns show the size of the change from wave 1 to wave 2.

Table A: Percentage and Change in Percentage in Teachers Responding

	Wave 2		Wave 2-1 increase (- decrease)	
This term, HIV/AIDS has been addressed in	**Control**	**Target**	**Control**	**Target**
Assemblies	73%	89%	58%	78%**
Staff meetings	63%	79%	38%	58%**
Classroom Work Displays	33%	44%	7%	29%**
School Work Displays	25%	31%	0	14%**
Debates	31%	44%	5%	25%**
Drama/Music Festivals	21%	46%	-13%	23%**
Class Competitions	17%	26%	0	14%**

** $p \leq .01$

Table B: For Teachers Who Have Taught Each of the Following Subjects, Percentage and Change in Percentage Addressing HIV/AIDS in:

	Wave 2		Wave 2-1 increase (- decrease)	
	Control	**Target**	**Control**	**Target**
English	40%	44%	-14%	-13%
GHC	34%	48%	-29%	-21%
HIV/AIDS Lessons	49%	68%	-39%	-25%**
Home Science	33%	31%	-46%	-51%
Kiswahili	24%	25%	-20%	-28%
Music	21%	36%	-30%	-28%
Physical Education	31%	40%	-18%	-13%
Religious Education	51%	60%	-36%	-23%**

** $p \leq .01$

Table C: For Teachers Who Have Taught HIV/AIDS in Each Subject, Percentage and Changes in Percentage Addressing HIV/AIDS 3 or more times in:

	Wave 2		Wave 2-1 increase (- decrease)	
	Control	**Target**	**Control**	**Target**
English	58%	71%	15%	16%
GHC	71%	78%	21%	27%
HIV/AIDS Lessons	80%	91%	12%	25%**
Home Science	57%	61%	19%	10%*
Kiswahili	60%	74%	24%	33%**
Music	68%	75%	23%	29%
Physical Education	66%	88%	20%	40%**
Religious Education	79%	90%	17%	30%**

** $p \leq .01$

Table D: Percentage and Change in Percentage of Teachers Reporting Each of the Following

	Wave 2		Wave 2-1 increase (- decrease)	
	Control	**Target**	**Control**	**Target**
Sexuality is included in the School Development Plan	35%	52%	-18%	16%**
HIV/AIDS is in Master Timetable	77%	89%	5%	8%
Infusion and Integration	62%	77%	28%	45%**
Scheme of Work for HIV/AIDS	46%	68%	13%	30%**

** $p \leq .01$

Table E: Percentage and Change in Percentage of Teachers Responding

	Wave 2		Wave 2-1 increase (- decrease)	
School has:				
AIDS Ed syllabus	75%	93%	-5%	77%***
Lets Talk about AIDS – Facilitator Handbook	58%	89%	12%	57%***
Lets Talk about AIDS – Book 1	23%	81%	14%	66%***
Lets Talk about AIDS – Book 2	22%	79%	13%	65%***
Lets Talk about AIDS – Book 3	22%	81%	8%	62%***
HIV/AIDS Reader – Green cover	8%	57%	2%	52%***
AIDS Handbook – dark blue cover	7%	38%	-1%	33%***
Bloom or Doom	7%	55%	6%	52%***
Choices	4%	24%	3%	23%***
AIDS Education for Youth	8%	54%*	-	-

*** $p \leq .001$

Table F: Percentage of Pupils and Teachers Who Say Their School Has

	Pupils				Teachers			
	Wave 2		Wave 2-1 increase (- decrease)		Wave 2		Wave 2-1 increase (- decrease)	
	Control	**Target**	**Control**	**Target**	**Control**	**Target**	**Control**	**Target**
School Health Club	33%	58%	-3%	16%**	32%	69%	28%	60%***
Question box	31%	72%	-7%	31%***	31%	90%	27%	87%***
Information Corner	32%	45%	0%	12%**	20%	54%	7%	40%***

*** $p \leq .001$

Table G: Percentage and Change in Percentage of Pupils Who Have

	Wave 2		Wave 2-1 increase (- decrease)	
	Control	**Target**	**Control**	**Target**
Asked a question in the question box	36%	69%	-14%	19%**
Asked a teacher a question about HIV/AIDS	50%	67%	-9%	8%**
Talked to a parent about HIV/AIDS	49%	56%	-5%	2%**
Taken part in a competition about HIV/AIDS	33%	42%	7%	16%**
Read about HIV/AIDS in the school information corner	41%	50%	9%	18%**
Talked about HIV/AIDS in the School Health Club	36%	55%	-10%	8%**
Helped a person living with AIDS	27%	36%	-5%	4%**
Helped a friend avoid a situation that might lead to sex	49%	51%	-2%	-1%

** $p \leq .01$

Table H: Mean and Changes in Mean Scores on the 'Pursuing Information' Scale

	Wave 2		Wave 2-1 increase (- decrease)	
	Control	**Target**	**Control**	**Target**
All pupils	4.21	5.88	-0.09	1.48**
Standard 7 only	4.45	6.36	-0.12	1.91**
Boys	4.03	5.63	-0.22	1.87**
Girls	4.35	6.17	0	1.62**
Ever Played Sex: Yes	4.28	5.72	-0.16	1.34**
No	4.17	5.98	0.01	1.55**

** $p \leq .01$

Table I: Percentage and Change in Percentage of Teachers and Pupils With Correct Answers

	Pupils				Teachers			
	Wave 2		Wave 2-1 increase (- decrease)		Wave 2		Wave 2-1 increase (- decrease)	
	Control	**Target**	**Control**	**Target**	**Control**	**Target**	**Control**	**Target**
You can prevent HIV by avoiding having sex	59%	57%	-11%	-15%	81%	88%	10%	19%

Table J: Percentage of Pupils Responding

The following have been talked about in school	**Control**	**Target**
How to resist playing sex	56%	61%**
How to control urges	46%	50%**
How to abstain even when friends push you	43%	48%**
How to keep from playing sex even when BF/GF wants to	47%	51%**
How to avoid playing sex with older men/women	40%	45%**

**Statistically significant differences between control and target ($p \leq .01$)

Table K: Percentage of Teachers Responding

I have talked to pupils about	**Control**	**Target**
How to resist playing sex	79%	88%**
How to control urges	58%	76%**
How to abstain even when friends push you	78%	86%
How to keep from playing sex even when BF/GF wants to	54%	70%**
How to avoid playing sex with older men/women	57%	61%

**Statistically significant differences between control and target ($p \leq .01$)

Table L: Percentage of Teachers Who Strongly Agree

	Wave 2		Wave 2-1 increase (- decrease)	
	Control	**Target**	**Control**	**Target**
Sex outside of marriage is wrong	85%	88%	-3%	0%

Table MI and MII: Percentage of Pupils

	Wave 2		Wave 2-1 increase (- decrease)	
Boys: MI	**Control**	**Target**	**Control**	**Target**
Sexual debut in past year[a]	17%	20%	-4%	-6%**
Played sex in past 3 months[b]	39%	37%	8%**	7%**
Could play sex but refused – in past 3 months	23%	21%		
Didn't go somewhere to avoid playing sex[c]	28%	32%	-4.5%**	-4.8%**
Girls: MII				
Sexual debut in past year[a]	6%	8%	-17%**	-16%**
Played sex in past 3 months[b]	35%	35%	8%**	6%**
Could play sex but refused – in past 3 months	24%	24%		
Didn't go somewhere to avoid playing sex[c]	37%	38%	-2.6%	-5.1%**

** Statistically significant differences between wave 1 and 2 for this group ($p \leq .01$).

a. Percentage of pupils who were virgins at the beginning of the year and initiated sex during the year. Based on STD 6 pupils for wave 1 and STD 7 pupils for wave 2.

b. Based on pupils who had initiated sexual activity.

c.Reference point in wave 1 was 'in the last month'; reference point in wave 2 was 'in the last 3 months'

Table NI and NII: Percentage and Changes in Percentage of Teachers and Pupils With Correct Answers

	NI Teachers				NII Pupils			
	Wave 2		Wave 2-1 increase (- decrease)		Wave 2		Wave 2-1 increase (- decrease)	
You can prevent HIV by	**Control**	**Target**	**Control**	**Target**	**Control**	**Target**	**Control**	**Target**
Using a condom correctly when playing sex	88%	93%	10%	4%	51%	49%	-11%	-14%
Other Knowledge/Belief Questions								
A condom can slip off and remain inside a girl	25%	37%	-	-	22%	25%	-	-
Using a condom reduces the likelihood of becoming infected	-	-	-	-	32%	32%	-	-

** Statistically significant differences between wave 1 and 2 for this group ($p \leq .01$).

Table O: Percentage and Change in Percentage of Teachers Who Strongly Agree

	Wave 2		Wave 2-1 increase (- decrease)	
	Control	**Target**	**Control**	**Target**
Teaching young people that condoms give protection only encourages them to have sex	66%	52%	4%	-15%**

** Statistically significant differences in wave 1-2 changes between target and control schools ($p \leq .01$).

Table P: Percentage and Change in Percentage of Pupils

	Wave 2		Wave 2-1 increase (- decrease)	
Agree that	**Control**	**Target**	**Control**	**Target**
CONDOM: If you have sex you should use a condom to protect yourself	44%	43%	-5%	-9%**
Answered 'Definitely yes or yes'				
I can tell my BF/GF about using a condom	47%	50%	-	-
If I must play sex I can make sure we use a condom	58%	57%	-	-

** Statistically significant differences between pre and post for this group ($p \leq .01$).

Table Q: Percentage and Change in Percentage of Pupils

	Wave 1				Wave 2			
	Control		Target		Control		Target	
	Non-virgin	Virgin	Non-Virgin	Virgin	Non-virgin	Virgin	Non-virgin	Virgin
You can prevent HIV by using a condom correctly when playing sex	62%	63%	64%	61%	56%	48%*	51%	48%
A condom can slip off and remain inside a girl	-	-	-	-	27%	20%*	29%	23%*
Using a condom reduces the likelihood of becoming infected	-	-	-	-	38%	29%*	35%	30%*
If you have sex you should use a condom	48%	51%	54%	50%	56%	38%*	50%	39%*
I can tell my BF/GF about using a condom	-	-	-	-	56%	45%*	56%	49%*
If I must play sex I can make sure we use a condom	-	-	-	-	67%	56%*	60%	57%*

* Significant difference between non-virgin and virgin pupils ($p \leq .01$).

Table R: Percentage and Change in Percentage of Pupils

	Wave 2		Wave 2-1 increase (- decrease)	
Boys	**Control**	**Target**	**Control**	**Target**
Used a condom last time you played sex	28%	26%	-2%	-1%
Girls				
A condom was used the last time I played sex	31%	23%	-7%**	-1%

** Statistically significant differences between pre and post for this group ($p \leq .01$).

Table S: Pearson Correlations for Programme Implementation Components

	Target/Control	SRS global impact	Teacher Implementation	Pupil Implementation	T: Teach about Abstinence
SRS global impact indicator	0.465***				
Teacher Implementation Score	0.324***	0.147			
Pupil Implementation Score	0.509***	0.352***	0.073		
Teachers: Teaching about Abstinence	0.186*	0.164	0.094	0.163*	
Pupils: Being Taught About Abstinence	0.269***	0.041	0.072	0.454***	0.079

*$p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Table T: Hierarchical Blocked Stepwise Regression Results

Variables blocked together. # indicates order of entry	All variables are the mean scores in each school	1 **T. Barriers to Teaching**	2 **T. Imple-mentation**	3 **P. Imple-mentation**	4 **T. Abstinence Teaching**	5 **P. Abstinence Teaching**	6 **P. Practical Utility**	7 **P. Affective Response**	8 **P. Know-ledge**	9 **Pursue Info**	10 **P. Talk to F Relatives**	11 **P. Talk to M Relatives**	12 **P. Talk to Others**
	R-squared	0.17	0.1	0.43	0.06	0.43	0.36	0.24	0.56	0.65	0.7	0.78	0.86
	Constant	7	3.03	4.35	5.15	-0.26	3.13	4.11	0.07	-1.09	-0.18	3.13	-1.57
1	Target/Control	0.93	1.08	1.09	1.12	1.09	-0.28			0.8	0.58		
2	T. attitudes toward teaching			0.23									
	T. barriers to teaching											0.08	0.08
	P. implementation					0.56		-0.28	0.12	0.65			0.14
	T. abstinence teaching									0.09			
	P. abstinence teaching						0.33	0.24		0.26			
	P. practical utility								0.29		0.22		
	P. affective response									-0.25		-0.3	
3	P. knowledge												
4	P. sexual agency									0.26			
	P. Forced												
	P. commit to abstinence												
5	P. communicate F. relative												0.38
	P. communicate M. relative												0.52
	P. communicate Others										0.92	0.83	
	P. Pursue information												
	% pupils debut yr before												
	% non-virgins												
	% boys used condoms												
6	Rural									-0.51			
	S. SES	-0.04		-0.04		0.04							
	S. KCPE	0.003		0.003	0.005			0.002		0.005	-0.002	-0.002	0.002
	S. T/P ratio								11.18			8.3	
	S. % Protestant pupils						0.008	0.008					
	S. % Catholic teachers					0.009							
	S. Luo pupils are > 90%							0.38			0.57		-0.27
	S. Kisii pupils are > 90%					0.55	0.44		0.65				
	# churches in community												
	# Protestant meetings on AIDS								0.12				
	# Break/Trad meetings on AIDS			-0.2									

Notes: P = pupil; T=teacher; S=school; Blacked-out cells are varibles not entered into the regression.

The following variables were entered into the regression analyses, but did not produce significant results for any outcomes of interest.

They have been omitted from the table: # Catholic meetings on AIDS, school religious sponsorship, % protestant teachers, % Catholic pupils, teacher knowledge and implementation.

Table T Continued: Hierarchical Blocked Stepwise Regression Results

Variables blocked together. # indicates order of entry	All variables are the mean scores in each school	13 P. Sexual Agency	14 P. Forced to Play Sex	15 P. Commitment to Abstinence	16 Boys Debut during program	17 Girls Debut during program	18 Debut during program	19 Boys used condom last sex	20 Not gone somewhere to avoid sex	21 Pregnancies STDs 6, 7 & 8	22 Proportion underestimating risk
	R-squared	0.24	0.23	0.35	0.19	0.17	0.32	0.24	0.18	0.07	0.89
	Constant	7.95	6.8	3.85	-4.85	4.7	1.04	59.63	-3.64	0.28	-12.9
1	Target/Control										
2	T. attitudes toward teaching		-0.25								
	T. barriers to teaching										
	P. implementation										
	T. abstinence teaching										
	P. abstinence teaching			0.25					2.82		
	P. practical utility										2.76
	P. affective response	-0.25	-0.27	0.11				-9.22			
3	P. knowledge	-0.4	-0.42								-1.89
4	P. sexual agency										
	P. Forced				1.37			6.9			
	P. commit to abstinence										
5	P. communicate F. relative				1.08				2.9		
	P. communicate M. relative										
	P. communicate Others						0.88				
	P. Pursue information										
	% pupils debut yr before						0.17				
	% non-virgins										0.83
	% boys used condoms										-0.03
6	Rural		0.4								
	S. SES									-0.004	
	S. KCPE		0.002						0.035		
	S. T/P ratio			5.05	70.05						
	S. % Protestant pupils										
	S. % Catholic teachers						-0.03				
	S. Luo pupils are > 90%				2.07	4.35	3.53				
	S. Kisii pupils are > 90%			-0.43							
	# churches in community	-0.1						-2.36			
	# Protestant meetings on AIDS	0.22		0.09			-0.9				
	# Break/Trad meetings on AIDS										

Notes: P = pupil; T=teacher; S=school; Blacked-out cells are varibles not entered into the regression.

The following variables were entered into the regression analyses, but did not produce significant results for any outcomes of interest.

They have been omitted from the table: # Catholic meetings on AIDS, school religious sponsorship, % protestant teachers, % Catholic pupils, teacher knowledge and implementation.

Table U: Hierarchical Blocked Stepwise Regression Results

Variables blocked together. # indicates order of entry	All variables are the mean scores in each school	Difference T Attitude	Difference T. Imple-menta-tion	Difference P. Imple-menta-tion	Dfference P. practical utility	Difference P. Affective Response	Difference P. Know-ledge	Difference Pursue Info	Difference Debut during program	Difference Boys Debut during program	Difference girls used condoms	Difference boys used condoms	Difference underestimate risk
	R-squared	0.03	0.11	0.32	0.35	0.18	0.47	0.44	0.14	0.12	0.13	0.11	0.82
	Constant	0.25	1.38	1.77	1.03	2.11	0.68	-2.1	-4	-4.75		51.89	-5.64
1	Target/Control		1.15	1.06	-0.45	-0.61							
2	T. attitudes toward teaching			0.27									
	T. barriers to teaching												
	T. implementation												
	P. implementation							0.94	0.99				
	SRS global uptake indicator												
	Most important lessons learned												
	T. abstinence teaching							0.13					
	P. abstinence teaching				0.26	0.28							
	Difference P. practical utility						0.25						
	Difference P. affective response							-0.24				-8.15	
3	Difference T. knowledge							0.15		0.76			
	Difference P. knowledge												2.03
4	P. sexual agency												2.18
	P. Forced												
	P. commit to abstinence												
5	P. communicate F. relative												
	P. communicate M. relative												
	P. communicate Others												
	P. Pursue information												
	Difference % pupils debut yr before										1.28		
	Difference ever play sex												0.66
	Difference boys use condom												-0.08
	Difference girls use condom												-0.05
	Not gone somewhere avoid sex												0.1
6	Rural												
	S. SES			-0.05	-0.05	-0.06	-0.03						
	S. KCPE			0.002									
	S. T/P ratio	-9.06					10.39			95.57			
	S. % Catholic pupils												
	S. % Protestant pupils											-0.3	
	S. % Catholic teachers								-0.04				
	S. % Protestant teachers												
	S. Luo pupils are > 90%				-0.62								4.99
	S. Kisii pupils are > 90%					0.4	0.79						
	S. Catholic Sponsored												
	S. Protestant Sponsored												
	# churches in community												
	# Catholic meetings on AIDS												
	# Protestant meetings on AIDS												
	# Break/Trad meetings on AIDS								-1.12	-2.27			

Table V: "Best" School Ranking

School	Target/ Control	Teacher know	Pupil know	Pupil avoid know	Sexual agency	Force	Commit Abstain	Helped friend	Pursue info.	Debut during prog.	Recent sex	Condom use boys	Condom use girls	Refuse play sex	rank
Overall Mean		9.1	5.6	6.1	2.7	2.1	6.7	72.9	7.3	1.5	0	60	45.8	56.2	1--13
St Peters	Control	7.5	5.6	6.6	1.8	1.2	7.6	29.2	5.3	3.1	30.8	9.1	50.0	48.0	6.0
Sensi	Target	9.2	5.6	6.4	4.1	4.6	4.8	77.8	7.9	1.8	50.0	50.0	0.0	13.2	4.0
Pace Acad.	Control	6.3	4.5	6.0	2.3	1.3	7.6	38.2	6.3		0.0	0.0	0.0	70.0	5.0
Jans Acad.	Target	9.6	5.1	6.1	2.2	2.2	7.3	42.9	5.8	4.0	30.0	0.0	50.0	64.5	6.0
Nyandoche	Control	3.3	6.5	6.8	4.1	2.6	7.4	52.8	6.9	2.1	29.4	80.0	9.1	56.1	4.0
Nyamonuri	Target	7.9	6.6	7.3	3.9	4.1	6.4	66.7	5.3	1.1	36.8	22.2	0.0	59.4	4.0
Ombo Kware	Control	6.7	3.6	3.1	2.0	2.0	7.1	75.8	2.7	5.6	100.0		0.0	0.0	4.0
Kaduro	Target	7.5	6.1	8.5	0.0	0.0	6.0	38.5	5.5		0.0	0.0	0.0	0.0	5.0

Table W: "Best" Schools by Demographic Variables

School	Zone	District	KCPE score	Top/Bottom	Rural/Urban	School SES	Teacher/pupil
Overall Mean			281.8			54.7	0.03
St Peters	Sigomere	Kisii	509.4	Top	urban/periurban	81.0	0.05
Sensi	Awasi	Kisii	286.5	Bottom	rural	56.0	0.03
Pace Acad.	Atandi	Gucha	495.7	Top	urban/periurban	86.8	0.1
Jans Acad.	Ahero	Kisumu Mun.	399.9	Bottom	urban/periurban	60.9	0.04
Nyandoche	Mosocho	Nyamira	312.0	Bottom	rural	56.3	0.05
Nyamonuri	Awendo	Nyamira	352.6	Top	rural	51.3	0.03
Ombo Kware	Ekerenyo	Migori	-	Bottom	rural	52.8	0.05
Kaduro	Oyani	Migori	240.1	Bottom	rural	51.2	0.06

Table X: "Best" Schools by Implementation Variables

School	Teacher attitudes	Barriers to teaching	Teaching about abstinence	Teacher implementation score	Pupil implementation score	Pupil positive value of programme	Impact indicator score (SRS)
Overall Mean	4.13	6.31	7.05	3.59	5.05	7.47	54.92
St Peters	4.43	5.44	8.00	0.25	4.25	8.95	54.17
Sensi	4.57	8.33	10.00	5.99	6.04	6.76	80.21
Pace Academy	4.43	7.33	5.00	2.73	5.85	8.79	56.77
Jans Academy	4.00	8.33	3.00	5.83	5.33	9.19	75.63
Nyandoche	5.00	7.78	10.00	4.67	5.22	9.01	45.31
Nyamonuri	-	7.33	8.00	2.64	6.16	9.12	75.00
Ombo Kware	3.86	4.00	2.00	3.97	5.48	5.00	30.73
Kaduro	5.00	6.00	5.00	5.41	5.14	5.94	83.33

APPENDIX C: PREGNANCY REPORT

Total Number of Pregnancies by STD across all categories

- There is no evidence of a change across any standard in the total number of pregnancies from wave 1 to wave 2.
- The total number of pregnancies was calculated as the sum of:
  - Known pregnancies;
  - Known pregnancies terminated;
  - Girls suspected to have left school due to pregnancy; and,
  - Girls suspected to have terminated their pregnancy.

Breakdown of Number and Proportion of Pregnancies by STD					
		STD 6	STD 7	STD 8	Total
Wave 1	#	106	162	146	414
	Proportion	.04	.07	.09	.06
Wave 2	#	97	167	130	394
	Proportion	.03	.06	.07	.05

Proportional Breakdown of Total Pregnancies						
	STD 6		STD 7		STD 8	
Known Pregnancies	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
Ongoing	.64	.27	.67	.30	.68	.26
Terminated	.06	.10	.11	.10	.09	.13
Carried to Delivery	-	.41	-	.48	-	.51
Suspected						
Left School	.24	.16	.15	.10	.17	.07
Terminated	.07	.05	.07	.03	.10	.03

Suspected Person Responsible for Pregnancy

- The observed pattern (i.e. agemates out of school, friend/relative, and fellow student) of individuals identified as being responsible for impregnation did not change significantly from wave 1 to wave 2.
- Of note is that teachers were least often cited as being responsible for pregnancies.

Number of Pregnancies Caused by Certain Individuals						
	Fellow student	Teacher	Agemate out school	Business trader	Friend/ relative	Other
Pre-test	>40	>3	>146	20	>54	>61
Post-test	>43	5	>151	>27	>53	>45

- Additional comments given by zonal inspectors with respect to individuals suspected to be the cause of impregnation are worth mentioning.

  - *Older boys influence the young girls.*

- *The school shares the same compound with the secondary school.*
- *Secondary student was responsible.*
- *Responsible males were 'BODA BODA'.*
- *Most males suspected are not reprimanded or questioned about it.*

Living Arrangements of Pregnant Girl

- Girls were most likely to be living with their parents during their pregnancy. This observation has remained consistent over time (i.e. wave 1 to wave 2).

Where Living when became Pregnant						
	Boarder	Parents	Relatives	Lodging locally	Unknown	Living alone
Pre-test	1	>240	>86	>4	>9	>10
Post-test	>3	>209	>78	1	3	4

Current Activity Status of Pregnant Girls

- The current status of pregnant girls was most often identified as either being married, unemployed locally or relocated.

Current Status of Pregnant Girl										
	Married	Primary	Secondary	Moved	Employed locally	Unemployed locally	Employed elsewhere	Unemployed elsewhere	Not known	Other
Pre-test	>87	>58	20	>86	>12	>102	4	>35	>45	0
Post-test	>74	>46	>19	>74	4	>83	3	>27	>48	>12

APPENDIX D: KEY FINDINGS FOR PROGRAMME IMPLEMENTERS

Key Findings for *Programme Implementers*

Primary School Action for Better Health (PSABH)

6 Month Evaluation Results

EVALUATION METHOD

PSABH is being evaluated in 80 target (experimental) and 80 control schools using:

- Surveys completed by over 7,000 pupils and 400 teachers before initiation of PSABH and 6 months after both phases of teacher training were completed.
- Monitoring by zonal inspectors 3-4 months after the first phase of training.
- In-depth interviews and focus group discussions with teachers, community representatives and pupils in a select number of schools and communities both before PSABH and at 6 month post-PSABH teacher training.

KEY FINDINGS

In All Communities and Schools:

- AIDS deaths, AIDS orphans, and people living with AIDS are known in all communities.
- Multiple groups are delivering HIV/AIDS prevention programming in churches, schools, and other community settings.
- The main HIV prevention message advocated by schools, churches and community organizations is abstinence. This is taught primarily by using fear (abstain or you will die).
- Condoms are available for both adults and children in over 70% of communities.
- The information that is delivered about condoms is designed to discourage condom use by making youth afraid that condoms will increase their exposure to HIV.

HIV/AIDS Programming:

- Target schools, when compared to control schools, have a greater quantity and diversity of HIV/AIDS programming in place.
  - Teachers, however, continue to identify barriers to teaching about HIV and AIDS and resist, in particular, teaching about condoms.
  - Pupils are generally responding positively to the programming and asking for more, particularly more practical teaching about how to maintain abstinence and "the truth about condoms."
- PSABH trained teachers move quickly to train their colleagues and to implement HIV/AIDS programming in their schools.
  - Training of colleagues most often takes place in staff meetings, typically of about 2 hours in duration.
  - The topics most likely to be covered are those relating to theoretical teaching approaches, such as infusion and integration and least likely to be practical teaching, such as activities on life skills and living values and communication approaches.

Pupil Knowledge, Attitudes and Beliefs (KAB):

- Pupils in target schools, when compared to those in control schools:
  - Are communicating more with others about HIV and AIDS;
  - Are pursuing information about HIV/AIDS from a greater variety of sources.

  These are considered essential steps toward taking action to reduce risk.
- The effect of PSABH on pupil knowledge, attitudes and behaviours related to HIV acquisition and transmission, is through its influence on programming in the schools. While there were no statistically significant differences in pupil KAB that could be credited directly to PSABH, schools with more HIV/AIDS programming had significantly better results in pupil KAB, and target schools had more programming in place than did controls.

Targeted HIV Risk Behaviours:

- Fewer pupils completing surveys at 6 month evaluation reported they had initiated sexual activity than did so before programme implementation. The change was more pronounced among girls than boys and was evident in both target and control schools.
- There was no change evidenced in the sexual behaviours of pupils who were already sexually active before PSABH programming was brought into the schools.
- Pupils in schools with more programming on HIV and AIDS were more likely to report:
  - having refused to play sex in the past 3 months;
  - that they had avoided going to certain places in order to avoid being pressured to play sex.
- There was no change in condom use reported by girls and boys.
- Most pupils continue to underestimate their risk of infection.

CONCLUSION

In sum, there are many groups bringing programmes into the schools. PSABH is only one of them. When programming comes into the schools, even after only a few months and in the face of several disruptions (e.g. teacher strike, influx of new pupils), we begin to see pupil KAB shifts.

Ends/

Appendix E: KEY FINDINGS FOR POLICYMAKERS

Key Findings for *Policy Makers*

Primary School Action for Better Health (PSABH)

6 Month Evaluation Results

EVALUATION METHOD

PSABH is being evaluated in 80 target (experimental) and 80 control schools using.

- Surveys completed by over 6,000 pupils and 400 teachers before initiation of PSABH and 6 months after both phases of teacher training were completed.
- Monitoring by zonal inspectors 3-4 months after the first phase of training.
- In-depth interviews and focus group discussions with teachers, community representatives and pupils in a select number of schools and communities both before PSABH and at 6 month post-PSABH teacher training.

KEY FINDINGS

Teacher Training is Essential:

- Teachers and schools both need and benefit from training and support to deliver HIV/AIDS prevention programming. They actively pursue this training when given the opportunity (e.g., control schools found ways to attend training).
- From 3 and 6 month programme evaluation we have learned that training and support:
  - Produce a visible and sizable increase in HIV/AIDS prevention programming in schools.
  - Break the silence – there is more communication in schools and communities and pupils report communicating more with diverse other people at 6 month evaluation.
  - Motivate pupils to be active agents in pursuing information.
- PSABH trained teachers move quickly to train their colleagues and implement HIV/AIDS programming in their schools.
  - Take up of training of colleagues and implementation of the programme in schools is stronger in schools with a higher proportion of female teachers.
  - Training of colleagues most often takes place in staff meetings, typically of about 2 hours in duration.
  - The topics covered are:
    a) Most often related to theoretical teaching approaches (e.g. Infusion and Integration); and,
    b) Least often related to practical teaching (e.g. activities on life skills and living values and communication approaches).

All of these appear in the research and development literature as necessary first steps towards developing effective strategies to reduce the spread of HIV, decreasing vulnerability, and providing for the needs of those living with HIV. Generally, without training, programming, communication, and agency very little happens.

Pupils Respond to HIV/AIDS Programming:

- When there is more HIV/AIDS programming in schools, pupil knowledge, attitudes and behaviours related to risk begin to improve; however, this change is slow and pupils continue to receive multiple and conflicting messages in all of these areas.

- When there are multiple, conflicting beliefs and messages circulating, people will connect with those that support and confirm the beliefs they already hold.
- Although we may think of *knowledge* as dealing with objective facts that can relatively easily be *learned*, in actuality there is an intricate intermingling of *knowledge, beliefs and attitudes*. For example, when you *believe* that talking about condoms is evil, or that telling youth that condoms can prevent the spread of HIV will encourage promiscuity, then being taught that condoms are nearly 100% effective in preventing the spread of HIV will not be accepted as a message promoting condom use. It will rather be heard and transmitted as a message that condoms are <u>not</u> effective in protecting against HIV.
- Youth are often the most forward thinking and perceptive members of a community.
  - Youth know they are in danger.
  - Youth know that danger is connected with sexual behaviour.
  - Youth are aware of multiple, conflicting forces and pressures.
  - Youth want to learn practical strategies to counter these forces.
  - Youth know that adults don't know what to say to them.
  - Youth recognize that slogans (AIDS kills, If you play sex you will get AIDS and die, just say no) may be conveying the 'truth', but slogans do not teach them how to combat forces and pressures or how to deal with the competing beliefs and messages.

Leaders Have an Important Role:

- Those leading the response to HIV/AIDS need the reassurance of government policies that address issues of prevention strategies as well as the management of HIV infection. At present these policies are too *silent.*
- Political leaders, religious leaders, community leaders and teachers, are very important and influential people in the eyes of youth.
- They can use their influence productively by joining together and providing a coherent message that meets the needs of all Kenyans (both those who practice abstinence and those who are sexually active). The ways they are currently using their influence, however, only increase the confusion, uncertainty, and turmoil that Kenyan youth experience. What is heard are contradictory messages and misinformation.

<u>RECOMMENDATIONS</u>

- Support MoEST to complete an effective HIV/AIDS policy and respond to the National Strategic Plan on HIV/AIDS.
- Ensure training and support for HIV/AIDS education reaches all schools and
  - Keep providing support (e.g., provide refresher courses and new materials).
  - Maintain communication amongst schools (e.g. workshops, competitions among schools).
  - Monitor what is going on. (You can't do it once and assume everything will fall into place).
- Lobby political, religious and community leaders to develop a single, consistent, ***comprehensive*** prevention message that is realistic for <u>all</u> Kenyan people and get them to repeat it again and again and say it loudly.
- In programmes targeting youth, work with youth to develop practical strategies to maintain their own safety (strategies for dealing with situations that lead to sexual activity, with community pressures, for negotiating condom use – this is particularly important for girls who have considerably less power than boys do in sexual relationships).

- Work with communities to find ways to reduce risk while honouring local cultures (e.g., if you circumcise, do it with sterile tools, ensure each child has his or her own razor or knife; if widows must be inherited, use condoms).

End/.