PRIMARY SCHOOL ACTION FOR BETTER HEALTH

30 (Nyanza) and 26 (Rift Valley) MONTH EVALUATION
VOLUME I of II

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EXECUTIVE SUMMARY

Primary School Action For Better Health (PSABH)

Primary School Action for Better Health (PSABH) is an HIV/AIDS prevention programme for primary schools being delivered in Kenya by CfBT with Ministry of Education staff. In the evaluation of PSABH reported here, the head teacher (or deputy head), 1 resource or senior teacher, and 1 community representative were trained in a series of two, week-long training sessions. The trained teachers then delivered training to their colleagues and provided HIV/AIDS education in the classrooms and co-curricular activities in their schools. One to two terms after teachers were trained, 4 peer supporters and one additional teacher-supervisor were trained in a similar one-week training course.

Evaluation Design

Between November 2001 and October 2003, PSABH was evaluated using a randomized controlled cross-sectional trial with combined survey and interview methodologies. Data collected pre-programme (wave 1) and 18 (Nyanza) or 14 (Rift Valley) months after teachers were trained (wave 3), supported the conclusions that the programme was well received in schools and communities and compared to control schools, produced desirable changes in pupil knowledge, attitudes and behaviours (KAB) related to HIV transmission. While the impact of findings differed in scale and specific nature in the two provinces, in general they were similar in terms of KAB (See Appendix A for a summary of these results for Nyanza Province).

Twenty schools in each of Nyanza and Rift Valley provinces that had a full complement of trained personnel (head teacher, senior teacher, community representative, peer supporters, and a teacher-supervisor) were used in the current phase of on-going evaluation (wave 4, 26-30 months post-training). It was not possible to retain control sites for this phase since they were promised training at the completion of the 18 month evaluation. The implications of the loss of control sites for interpretation of results is discussed in the Methodology Chapter (pages 15-22) and is highlighted throughout the body of the report.

In wave 4, surveys, focus groups and in-depth interviews were used to collect information in participating schools.

The central question in this phase of research is:

> ***Have the gains observed by wave 3[1] in implementation, knowledge, attitudes and practices been maintained at wave 4[2]?***

Evaluation Results at 26-30 Months Post Teacher Training

Teachers

While all schools in Kenya were directed to teach 1 AIDS lesson a week, at wave 3, compared to control schools target schools were teaching about AIDS

- In a greater variety of classroom subjects.
- Using a greater variety of teaching methods and resources.

[1] 18 months (Nyanza) and 14 months (Rift Valley) after the first teacher training.
[2] 30 months (Nyanza) and 26 months (Rift Valley) after the first teacher training.

- Using a variety of co-curricular activities.

These gains were maintained in the current wave of data collection. Of particular note was that, in wave 4:

- 75% or more of teachers in Nyanza (40% or more in Rift Valley) reported using: question and answer sessions, whole class discussions, drama, group activities, debates and notice boards to enhance teaching about HIV and AIDS. (p. 27)
- While teachers recognized that by actively engaging pupils, drama conveyed more than just factual information, some commented that drama used "too many resources." Songs, music and poems were preferred since they were inexpensive and also engaged pupils. (p. 28)
- While availability of resources remained constant, reports of the use of teaching resources increased. This suggests that as teachers used resources over a longer period of time, they incorporated them into a wider variety of school activities and found more diverse ways to use them. (p. 30)

Teachers' attitudes toward teaching about HIV/AIDS remained positive and they continued to report few barriers to such teaching (p. 33). New issues that were raised in wave 4 included:

- Concerns that HIV/AIDS teaching had a negative impact on the AIDS orphans in the school (p. 34).
- Refresher courses would help to update skills and information, especially in relation to: working with the community, guidance, counseling, care of the infected and affected, VCT, treating opportunistic infections and technical information such as the connection between STDs and HIV (p. 25)

While teachers' knowledge related to HIV/AIDS was high at all waves of data collection, there were specific improvements in knowledge at wave 4 with respect to:

- The efficacy of condoms, (p. 35)
- Dispelling misinformation about the transmission of HIV through clothes and from thin people. (p. 35)

Teachers continued to have difficulties with the relationship between STIs and HIV.

Peer Supporters

- Where peer supporters were present, half or more of them were engaged in providing HIV education support to other pupils. (p. 40-41)
- In schools that had lost their PSABH trained peer supporters, there was no evidence that the school had found a way to maintain the peer supporter programme. (p. 41)

Pupils

Comparisons between target and control schools figured prominently in identifying changes in pupil KAB during the 14-18 month evaluation period. The effect of PSABH on pupils in target schools was either to move them in a more desirable direction with respect to KAB, or to keep them from moving in the undesirable direction evident in pupils in control schools. Without control schools, the gains, or movement in a desirable direction, are still evidenced when examining only the data on target schools. However, when the situation in target schools remained constant and that in control schools deteriorated, the loss of control schools to the analysis left only the 'no change' result in the target schools. This made it appear as if the programme had no effect when, in actuality, it had the effect of keeping target schools from moving in the undesirable direction of control schools.

Participation in and Awareness of HIV/AIDS Programme:

- Pupils continued to report high levels of overall participation in and awareness of the HIV/AIDS programme in their schools. (p. 44)
- There was some fall-off in reports of a school health club and use of the question box related to loss of trained teachers or peer supporters. The question box continued to be reported by pupils as the most useful aspect of the programme. (p. 44-45)
- Visitors were reported to be bringing condom information to schools. (p. 47)

Knowledge and Attitudes:

- While there were no gains in mean knowledge scores, the percentage of pupils who received a passing grade (i.e. greater than 50%) increased between wave 3 and wave 4. (p. 46)
- On surveys, the wave 1 to 3 gains made by both girls and boys with respect to being able to say no to sex were lost at wave 4. However, in focus groups pupils provided numerous examples that supported a conclusion that they continued to feel able to 'say no.' (p. 48-49)
- Gains were evident in knowledge and attitudes about condoms on surveys and in focus groups. (p. 47-48)
- There were greater gains in knowledge and specifically in condom knowledge and attitudes for standard 6 pupils at wave 4 than for standard 6 pupils at wave 3 suggesting that the programme is having a greater impact the longer it is in schools. (p. 55)
- Pupils demonstrated more specific, detailed and sophisticated knowledge in focus groups at wave 4 than in previous waves. (p. 46)

Pursuing Information and Communication:

- While there was a decrease in pursuing information and communicating with others about HIV/AIDS over the waves of data collection, pupils with higher levels of participation in the HIV/AIDS activities in their schools reported higher levels of pursuing information and communication with others. (p. 55-56)

Sexual and Condom Use Behaviours:

The beneficial impact of PSABH on the sexual behaviours of pupils evident in the 14-18 month evaluation was generally maintained at wave 4.

- Girls at wave 4 maintained the lower rates of sexual debut and reports of ever engaging in sexual intercourse attained at wave 3. (p. 52-53)
- Boys at wave 4 maintained the rates of sexual debut and reports of ever engaging in sexual intercourse evidenced at waves 1 and 3. Of note is that boys in control schools increased in both of these areas from wave 1 to 3 suggesting that in target schools PSABH had counteracted the undesirable trend witnessed in control schools. (p. 52-53)
- An additional gain at wave 4 was that fewer girls and boys reported engaging in intercourse in the past 3 months than did so at waves 1 or 3. (p. 52-53)
- There were no gains evidenced in condom use for either boys or girls. (p. 52-53)

Dose Response

- Pupils who participated in the programme longer, as well as pupils who were more aware of the presence of the programme in their schools and participated in more of the programme activities, demonstrated stronger and more diverse gains in the desired direction. (p. 53-57)

Inconsistencies

Pupil Age

- Problems were discovered in pupils' ability to report their chronological age or the age at which they initiated sexual intercourse. (see pages 20-21 for a full discussion). Consequently, results relating to age, or timing of sexual debut, must be treated with caution and interpreted only if they are consistent with other results. Results related to sexual debut during programme, for example, are consistent with results for ever participating in sex, and with what pupils and teachers reported in focus groups and interviews, suggesting that although there is some imprecision in these results, they reflect general patterns.

Pupil Knowledge and Attitudes

- Pupil responses to knowledge questions on surveys reflected a different picture than their discussions during focus groups. This is most likely because questionnaire items could not accommodate the conditions and qualifications that pupils placed on their answers in focus groups. (p.19-20)

Emerging Issues

The PSABH programme and its evaluation illustrate the action research process. In action research, programme and research form a spiral where each informs and challenges the other, and researchers and programme developers jointly reflect on how to strengthen the programme, test the changes, identify and respond to emerging issues. This is illustrated in the incorporation of information obtained during baseline research into teaching strategies discussed during training together with the addition of testing of these strategies in later waves of research.

Eight emerging issues were identified in this phase of the research. These will require attention in future research and programme modification:

- Teacher attitudes and beliefs related to the sexual fidelity of partners.
- Confusion among teachers about the relationships between STIs and HIV.
- The needs of AIDS orphans in the context of teaching about HIV prevention.
- The absence of a mechanism for sustaining a peer supporter programme once PSABH trained peer supporters leave the school.
- The beneficial impact on the condom related knowledge and attitudes when outsiders come to schools to teach about condoms.
- The on-going difficulties establishing pupil age that influence age-dependent measures.
- The on-going need for fuller responses to questions than is allowed on surveys in order to understand the reasoning processes used by pupils and the conditionality of their behaviours.
- The effect on the program when all trained peer supporters or teachers are lost to a school.

Conclusions

PSABH has been sustained in schools for 30 months following the initial training of teachers in Nyanza and for 26 months in Rift Valley.

The peer supporter component of PSABH does not appear to be sustainable beyond the tenure in primary school of the PSABH trained pupils.

PSABH continues to have a positive effect on pupils, and in some areas an improved outcome, up to 30 months in Nyanza and 26 months in Rift Valley schools.

INTRODUCTION

Primary School Action For Better Health (PSABH)

Primary School Action for Better Health (PSABH) is an HIV/AIDS prevention programme for primary schools. It is being delivered in Kenya by CfBT with funding from the Department for International Development (DFID). The goal of PSABH is to create a positive behaviour change in upper primary school pupils to reduce their risk of exposure to HIV. This is done using a modified cascade approach to training teachers in the delivery of an HIV/AIDS education programme in standards 6-8. In the evaluation of PSABH reported here, the head teacher (or deputy head), 1 resource or senior teacher, and 1 community representative were trained in a series of two, week-long training sessions. The trained teachers then delivered training to their colleagues and provided HIV/AIDS education in the classrooms and co-curricular activities in their schools. These were designed to be infused and integrated throughout school activities. One to two terms after teachers were trained, 4 peer supporters and one additional teacher-supervisor were trained in a similar one-week training course.

Evaluation Design

Between November 2001 and October 2003, PSABH was evaluated using a randomized controlled cross-sectional trial with combined survey and interview methodologies in 160 schools in Nyanza and 60 schools in Rift Valley provinces. Evaluation results examining changes between data collected pre-programme (wave 1) and 18 (Nyanza) to 14 (Rift Valley) months after teachers were trained (wave 3), while controlling for results of data collection in control schools, supported the conclusions that:

- PSABH was enthusiastically accepted in schools and communities.
- Trained teachers were able to quickly implement the HIV/AIDS programme in their schools.
- The critical thinking skills of pupils related to sexual behaviour and strategies to remain safe from HIV infection improved.
- Pupils participating in the programme felt more empowered to postpone initiation of first sexual intercourse (i.e., sexual debut).
- Pupils participating in PSABH, particularly girls, were more likely to report postponing sexual debut.
- There was some indication of girls reporting increased condom use in their sexual encounters.

A summary of these results for Nyanza can be found in Appendix A.

Based on these results, funding was provided for PSABH to be expanded to more schools and regions in Kenya with continued monitoring of its efficacy in 40 of the original intervention sites (20 in Nyanza and 20 in Rift Valley) and in 20 schools in each of 5 new sites. Based on an agreement with the control schools prior to initiating the evaluation in 2001, teachers from these schools were provided with PSABH training following the October 2003 data collection. Consequently, the on-going monitoring does not benefit from control schools for comparison. The implications of the loss of control schools and the smaller sample of intervention sites is discussed in the methodology chapter. Any specific implications for interpretation of results, or apparent inconsistencies between results produced in the original wave 1 to 3 comparisons published in the 14-18 month evaluation and those obtained in this phase of the evaluation are boxed in the body of this report.

This evaluation provides information based on data collected using surveys with pupils and teachers, focus group discussions with pupils, and in-depth interviews with teachers and community leaders in Nyanza and Rift Valley schools. Reports on baseline and 9 month evaluation data collected in 20 schools at each of five new sites will be produced in a report early in 2006.

The prime question addressed in this report is:

> ***Have the gains observed in implementation, knowledge, attitudes and practices by wave 3[3] been maintained at wave 4[4]?***

The question is answered by assessing the impact of the programme as it remains in the schools (i.e., programme maturation) and whether pupils with higher levels of exposure to the programme have stronger outcomes (dose response).

Programme maturation is examined by comparing:

- Pupil results pre-programme, at 14-18 months (wave 3), and at 26-30 months (wave 4), controlling for a variety of pupil characteristics. Differences between the wave 3 and 4 results provide information about whether the programme effect evidenced at 14-18 months after programme implementation has been maintained or changed.
- Results for standard 6 pupils at 14-18 months and the new sample of standard 6 pupils drawn at 26-30 months. This compares two groups of pupils who are of the same age and level of maturation and have each been exposed to the programme for 1 year. The second group of pupils have been exposed to a programme that has been operating within the schools for an additional year, i.e. a more mature programme. This comparison can demonstrate whether the programme's impact is being maintained, is increasing, or is decreasing.

Dose response is examined by comparing:

- Results for standard 6 pupils at 14-18 months to those of standard 7 pupils at 26-30 months. These are the same pupils after participating in the programme for 1 and then 2 years.
- Results for pupils who report different levels of participation in and awareness of the programme.

Emerging Issues: Action Research Process

The PSABH programme and its evaluation illustrate the action research process where action and research form a reciprocal relationship of influence. PSABH was initially developed based on best practices and field knowledge, incorporating baseline research findings on the scripting of sexual interactions for youth, their responses to conflicting messages about condoms, and teachers' struggles between delivering information about condoms and their belief that this would promote condom use. These research results were shared with teachers during the second training session where teachers focused on pedagogical techniques, programme content, and strategies for reaching specific subgroups of youth with information appropriate to their level of sexual development. The outcome of the training and the results of the research were shared with all target schools in a newsletter. Before the second and third waves of data collection, the content of the survey, focus group and interview guidelines were modified to assess the new

[3] 18 months (Nyanza) and 14 months (Rift Valley)
[4] 30 months (Nyanza) and 26 months (Rift Valley).

content. In action research, programme and research can be described as forming a spiral where each informs and challenges the other, and researchers and programme developers jointly reflect on how to strengthen the programme, test the changes, and how to identify and respond to emerging issues.

The model of PSABH that is being delivered in new schools in Kenya beginning in 2005 has responded to findings based on the full 14-18 month evaluation. As such it:

- Trains 2 more teachers than in the original model to address the loss and transfer of trained teachers.
- Includes religious leaders in the training to help teachers respond to concerns about how their religion will respond to the teachings about sexuality.
- In addition to the training programme used from the first training sessions, PSABH also trains teachers to:
  - Explore sexual scripting with youth and deliver messages that take these scripts into account;
  - Be alert to different levels of sexual maturation and insure pupils receive information and motivation to take action to reduce their own risk;
  - Separate the delivery of factual information about condoms from promotion of condom use;
  - Use resources inside and outside the schools with outside resources used to deliver programme components which teachers feel unable to deliver.

Emerging issues evident in wave 4 data collection and analysis are highlighted in the conclusions to each chapter in this report.

Report Sections

Volume I of this report includes the following chapters and appendices:

- Overview of Methodology
- Teacher Summary
- Peer Supporter Summary
- Pupil Summary
- Conclusions
- Appendix A: Findings After 18 Months in Schools
- Appendix B: Findings After 30 Months in Schools

Volume II of this report includes:

- Copies of surveys
- Copies of interviews
- Copies of focus group guides
- Information on coding of variables and creation of scales (codebooks)

OVERVIEW OF METHODOLOGY

Between November 2001 and October 2003, 160 schools in Nyanza Province (80 intervention sites and 80 controls) and 60 schools in Rift Valley province (40 intervention and 20 control) participated in a randomized controlled cross-sectional trial to evaluate the implementation of PSABH in schools and its impact on pupil knowledge, attitudes and behaviours (KAB) related to HIV and AIDS. The focus of this evaluation was to assess both effectiveness (i.e., size and direction of the change in pupil KAB) and efficacy (i.e., the ability of schools to deliver and maintain the programme as designed by *Cf* BT).[5] Before beginning the evaluation, all control schools were promised that their teachers would receive PSABH training once the final data collection was complete in October 2003. This precluded the possibility of continuing to fully test the effectiveness of the programme as it remained in schools. However, with new funding from the Department for International Development (DFID), and a commitment to expand the programme to an additional 2000 schools during 2005, it was decided to continue monitoring and testing the efficacy of the programme using 20 of the original intervention sites in each of Nyanza and Rift Valley Provinces.

Monitoring, Research and Evaluation Design

This is the fourth wave of data collection in schools in Nyanza and Rift Valley. In this wave, 20 schools were selected from the original target schools in each of these provinces. To be eligible for selection, schools had to have a full complement of PSABH trained teachers, community leaders and peer supporters recorded as having attended training. Schools were selected from those that met the inclusion criteria to insure a broad geographical coverage in Nyanza. In Rift Valley, there were only 20 schools which, from the beginning of the project, had a full complement of trained personnel. These were retained for this phase of the research.

All standard 6 and 7 pupils, the head or deputy head teacher and a senior teacher (preferably trained by PSABH) completed surveys in October 2004. Five boys and 5 girls from 4 schools in each province participated in separate focus group discussions. In addition, 2 teachers and the PSABH trained community leader from each of these schools participated in in-depth interviews. These data collection procedures will be repeated in October 2005. Table 1 outlines the sequence of activities relevant to the delivery of the PSABH programme to date.

Table 1: Sequence of Activities

Date	Activity	Details
November 2001	Data collection – wave 1 Nyanza	Teachers and Pupils in 80 control and 80 target schools in Nyanza complete self-completion surveys (TSC and PSC respectively).
March 2002		Interviews and focus groups conducted in 8 control and 8 target schools & communities in Nyanza. Zonal Inspectors collect pregnancy data in 80 control and 80 target schools in Nyanza.
April 2002	Course A Training - Nyanza	Teachers and community representatives from 80 Nyanza target schools complete Training Course A.
July 2002	Data collection	Wave 1 data collected in 20 control and 20 peer

[5] See reports available on the project website: www.psabh.info

Date	Activity	Details
	– wave 1 Rift	supporter schools in Rift Valley.
August 2002	Interim data collection and Course A and B Training	Zonal Inspectors complete School (SRS) and Community (CRS) Responsiveness Surveys in all participating schools & communities in Nyanza. Teachers and community representatives from 80 Nyanza target schools complete Training Course B. Teachers and community representatives in 20 Rift Peer Supporter schools complete Course A.
September 2002	Creation of variations	Schools assigned to 8 variations: Additional Teacher, Health Worker, Church Leader, Nyanza Basic Target, Rift Peer Supporter Target, Rift Teacher Only, Rift Control, Nyanza Control
October 2002	Data collection – wave 1 Rift	Qualitative data collected in 6 (3 target, 3 control) Rift Valley schools.
December 2002	Peer Supporter Training	Peer supporters and teacher advisors from 80 Nyanza target schools complete training.
February 2003	Wave 2 data collection Nyanza	Teachers and pupils in 80 control and 80 target schools in Nyanza complete self-completion surveys (TSC and PSC) and interviews and focus groups are conducted in 4 target communities.
	Training for variations and Course B Rift	Training of additional teachers, health workers, church leaders and teacher only variations in Course A. Course B and peer supporter training for 20 Rift peer supporter schools.
March 2003	Interim data collection	Zonal Inspectors collect pregnancy data in 80 control and 80 target schools in Nyanza. Zonal Inspectors conduct School (SRS) and Community (CRS) Responsiveness data collection in Rift Control and peer supporter schools.
June 2003	Training	Course A training of final group of church leaders completed. Course B for Additional Teachers and Teacher Only variations.
August 2003	Interim data collection	Zonal Inspectors complete School (SRS) and Community (CRS) Responsiveness Surveys in 80 target and 80 control schools & communities in Nyanza.
October 2003	Data collection – wave 3	Teachers and pupils in all participating schools in Nyanza Province and Rift Valley complete self-completion surveys (TSC and PSC) and interviews and focus groups conducted in 10 communities.
October 2004	Data collection – wave 4	Teachers and pupils in 20 intervention schools in Nyanza Province and 20 in Rift Valley complete self-completion surveys (TSC and PSC) and interviews and focus groups conducted in 8 communities.

Data Handling

Steadman Research Services Incorporated organized pilot testing of the surveys, data collection and data entry. Their multi-lingual staff conducted surveys with pupils and teachers, interviews with teachers and community representatives and focus groups with pupils. Records were maintained of field situations – e.g. if trained teachers could not be found at schools what the reasons were, unexpected circumstances encountered in the field, visible changes in schools or pupils between data collection waves. Steadman personnel entered all survey 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. Senior staff at Steadman also consulted with senior staff at C*f*BT and the University of Windsor on data collection instruments, research design, and interpretation of results, contributing their many years of field experience to insuring the research design was feasible, the questions reliably and validly tapped the desired information, and local contexts or meanings were reflected in the interpretation of results.

Research Design, Data Analysis and Reporting

Dr. Eleanor Maticka-Tyndale, Canada Research Chair in Social Justice and Sexual Health at the University of Windsor (Canada) was responsible for research design, data analysis, and completion of reports. Data collection instruments and data collection plans were developed in collaboration with senior C*f*BT and Steadman Research staff in Nairobi. Training workshops were conducted with field staff from Steadman Research prior to collection of each phase of in-depth interview and focus group data. Close contact was maintained through email and periodic meetings and site visits in Kenya to deal with any unexpected field situations, interpretations of results, and implications of results for programme modifications.

SPSS and WESVAR[6] were used in survey analysis and Scolari 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 scales and composite measures created by combining responses to clusters of questions dealing with the same topic. Before creating scales or composite measures, clusters of questions were tested using factor and reliability analysis to ensure pupils and teachers were responding to questions in a way that justified combining them.

In-depth explanations and discussions evidenced in the transcripts of interviews and focus groups were also used to produce in-depth, subjective measurements of programme implementation, response to the programme by teachers and pupils, areas of difficulty in programme implementation, knowledge, attitudes and behaviours related to HIV transmission, and emerging issues within schools and communities that were not covered in questionnaires. Where conclusions based on questionnaire responses and interview or focus group discussions differed, these were examined in greater detail using multivariate analysis procedures to identify potential conditions or mediating factors that might influence the interpretation of questionnaire results. Discussions with those more familiar with Kenyan youth

[6] WESVAR controls for the effect of clustered sampling.

and schools (e.g. Steadman research staff, C*f*BT staff, and lead trainers and teachers), and examination of other research conducted with youth in Kenya and other subSaharan African countries were completed.

Data Analysis Procedures

Survey Data

There were four stages to survey analysis:

(1) Data checking to verify the validity and reliability of data and whether variables met the assumptions of statistical analyses. Modifications of variables, or exclusion of some variables was based on the results of data checking.

(2) Preparation of frequency distributions reflecting how pupils or teachers had responded to survey questions at this and earlier waves of data collection. This produced an overall profile of responses.

(3) Ordinary Least Squares (OLS) Regression and Logistic Regression were used to analyze teacher and pupil survey data. Unless otherwise indicated, analyses of pupil data were run separately for boys and girls and controlled for age, standard and sexual experience prior to programme initiation (i.e. pre-programme virgin vs sexually experienced pre-programme). If there were statistically significant differences for students of differing age, standard or sexual experience, these are reported. Otherwise, only results comparing waves 1 to 3 and waves 3 to 4 are reported. Application of these controls insured that the results are not biased by differences between boys and girls, older and younger pupils, pupils in different standards, or pupils with different sexual histories. Because of the controls, the values reported for pupil data are considered **adjusted coefficients** or **adjusted odds ratios**.
Teacher survey data were analyzed without the imposition of any controls. Consequently, the values reported for teacher data are **unstandardized regression coefficients** or **odds ratios.**
Coefficients and odds ratios (both adjusted and not adjusted) express the degree to which:
   - scores at wave 3 are higher (regression coefficients>0; odds ratio >1) or lower (regression coefficients<0; odds ratio <1) than scores at wave 1
   - scores at wave 4 are higher (regression coefficients>0; odds ratio >1) or lower (regression coefficients<0; odds ratio <1) than scores at wave 3.

   In each case, regression coefficients and odds ratios are presented with their 95% confidence intervals (i.e. there is a 95% probability that scores are within this range). Regression coefficients are statistically significant at $p \leq .05$ if their confidence intervals do not include '0' within their range (i.e. the lower and upper values are either both below 0 or both above 0). Odds ratios are statistically significant at $p \leq .05$ if their confidence intervals do not include '1' in their range (i.e. the lower and upper values are either both below 1 or both above 1).

(4) Checking of inconsistencies
   - Inconsistencies between pupil and teacher reports related to what was occurring in schools were checked using questionnaire, interview and focus group results.
   - Survey responses of pupils and teachers from schools where focus groups and interviews were conducted were compared to those of pupils from the remainder of schools to establish whether the qualitative sites differed from the remainder of sites. This comparison was important to establishing the degree to which focus group and interview results were transferable to all schools or were potentially unique to the schools that participated in the qualitative data collection.

- Inconsistencies between results obtained in wave 1-3 analyses for this subset of 40 schools and the full sample of 220 schools (including control sites) were examined by:
  i. Comparing the wave 1-3 results for only target schools in the full sample and the 40 schools in this subset.
  ii. Identifying the source of differences between the full set of target schools and this subset.

Textual Data

Analysis of textual data was facilitated using Scolari N6 Software. The wave 4 qualitative data analysis focused on two areas:

(1) 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.
(2) Pupils and teachers were asked specific questions about the implementation of HIV educational activities in the schools. These responses provided in-depth insights into what was happening in each school.

Triangulation

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

Apparent Data Anomalies and Inconsistency

There were three areas of concern encountered in data analysis: inconsistency in results from pupil survey responses and pupil focus groups, discrepancies in pupil reports of their age, and apparent differences in wave 1-3 results in this subset of schools and the results for the full sample of schools (including control sites) for the same time period.

Differences between survey and focus group results

Results from focus groups at times provided a picture of a stronger programme than was apparent from surveys. This led to the question of how representative the 8 sites selected for qualitative data were of the full sample.

Survey responses of pupils in the 8 qualitative sites and the 32 non-qualitative sites were compared for wave 4 data on all questions and scales used to assess programme implementation and outcomes. There were statistically significant differences on only a small number of outcomes. In particular, pupils in qualitative sites were more likely than those in non-qualitative sites to report:

- Higher levels of participation in and awareness of an HIV/AIDS programme in their schools.
- Their school had a health club.
- Their school had a question box.

In addition, boys in qualitative sites were more likely than boys in non-qualitative sites to report that they would be sure a condom was used in sex. On the other hand, pupils in qualitative sites compared to those in non-qualitative sites:

- Had lower overall knowledge scores and fewer pupils who received passing grades on the knowledge test.
- Were less likely to report they were taught strategies for abstaining from sex.

Girls in qualitative sites compared to girls in non-qualitative sites were less likely to say:

- They could talk to a boyfriend about condoms.
- They would be sure a condom is used.
- They could refuse sex with a boyfriend.

The potential effect of these differences for interpretation of qualitative results are addressed in the relevant sections of the Pupil Summary chapter.

Discrepancies in Pupil Reports of Their Age

It has been almost impossible to establish the precise age of pupils participating in the research. For waves 1-3 of data collection, pupils were asked to record their date of birth. Examination of these results suggested we could not trust that pupils accurately recorded their birthdates. We came to this conclusion based on three pieces of evidence:

(1) Large proportions recorded the first day of a month as their birthday, suggesting many did not know the day on which they were born.
(2) Peer supporters, whose questionnaires were matched across data collection phases provided birthdates that were months and years apart on successive questionnaires.
(3) When age was calculated based on date of birth, we found illogical patterns when comparing this calculated age to the question of age at first sexual intercourse. For example, pupils said they had first engaged in intercourse at an age considerably older than what they currently were. We considered that the question about age of first intercourse had been misunderstood and that perhaps some pupils were reporting an age in the future when they thought they would engage in intercourse. However, when we examined how these youth had responded to other questions about sexual activity, it seemed clear that they were already sexually active. This led us to conclude that either date of birth was incorrect or the reported age of first intercourse was incorrect, or both.

In wave 4 we merely asked pupils for their current age, thinking that perhaps pupils did not know their birthdate but would know their age. When comparing ages reported in wave 4 to ages calculated using date of birth in wave 3 for the same cohort of pupils we found approximately a ½ year discrepancy, suggesting that the two ways of finding out about age produced different results. However, it does not appear that asking age rather than date of birth necessarily produces more valid information, since there were still illogical patterns when we compared reported age to age at first intercourse.

The dilemma of establishing pupil age was discussed with 3 colleagues from the University of Windsor who were born in subSaharan Africa. They were not surprised by our findings. All said that in rural areas of their own heritage countries (Ghana and Nigeria), birthdates are not noted and ages are only 'vaguely' referenced. 'How old' a child is may be 'calculated' in several ways. For example: based on the time since a major event happened just before, just after or about the same time as the child was born; by placing the child together with others born during the same approximate time of the year (with a potential for a several month discrepancy in the ages of children said to be the same age); or placing the child between children born before and after (resulting in a similar discrepancy to that already noted). They estimated that the number (i.e., age) assigned to a child may actually range across as much as 2 years. How well a child's ascribed age translated to our own concept of age was variable. We have also noted that it is not uncommon for anthropologists to comment that the concept of age marked by years calculated on the Gregorian calendar is one that was introduced to many areas of the globe with colonization and was not consistently accepted by local people. Acceptance of this form of identification of different levels of maturation of children or progress through the life course is variable around the globe. In some regions it may be seen as a necessary aspect of

the bureaucracies imposed from outside, something which must be reported, but not something which is paid much attention to or calculated very accurately. The passage of youth through various developmental stages may be related more to signs of biological maturation (e.g. when teeth erupt or fall out, growth and size, when signs of puberty are first evident) than to counting of seasons or years.

In this research, age and age of first sexual intercourse were used to calculate sexual maturation of pupils at the start of the PSABH programme in their schools (pre-programme virgins vs non-virgins) and whether they had initiated sexual activity during the tenure of the programme. Recognizing the difficulties in achieving accuracy in these calculations, if a pupil's reported age (or age calculated using the reported month and year of birth) was no more than 2 years older or younger than their reported age at first intercourse, the pupil was coded as a pre-programme virgin who had initiated sexual activity during the tenure of their participation in the programme. For wave 1, pre-programme data, this meant the pupil had initiated sexual activity during a similar time period prior to initial data collection. Pupils for whom the time period between current age and age of first intercourse was greater than 2 years were considered to be 'pre-programme non-virgins' and to have initiated sexual activity prior to participating in PSABH. Pupils who reported an age that was more than 2 years younger than the age reported for first sexual intercourse, were not used in any analyses that dealt with sexual maturation or sexual debut during the programme.

Results based on these calculations are interpreted in the context of other analyses which do not rely on the reporting of age. For example, changes in sexual debut are examined relative to changes in reports of ever participating in sexual intercourse, reports of sexual activity in the past 3 months, and discussions of changes in sexual activity that took place during focus groups.

Differences in wave 1-3 results with full sample and controls and with 40 school subset

To draw conclusions about the effectiveness of an intervention it is essential that data be collected not only from intervention sites, but that appropriate control sites are also used in the analysis. This insures that any changes that are occurring that are not influenced by the intervention are taken into account in formulating conclusions about impact. This was the approach taken to produce the 14-18 month evaluation results summarized in Appendix A. When control sites are lost, the changes evidenced only reflect what is occurring in the target or intervention sites. This is the case in the results reported here. Differences in results using the two techniques may easily result from the following situations:

- Changes in the desired direction may be occurring in both control and target sites. These result, in part, from changes external to the programme such as: greater attention to AIDS in the media, official declarations made by respected authorities, availability of new resources such as VCT or ARV that change people's attitudes or actions, changes in the mandates and requirements of schools such as initiation of free primary education or declaration that AIDS related knowledge will be tested through KCPE. Without control sites the changes caused in target sites may appear larger than can actually be credited to the programme's influence. With control sites, the changes reported for target sites are adjusted based on those evidenced in control sites, insuring that any reported changes may appropriately be credited to the programme.
- Changes opposite to the desired direction may be occurring in control sites, with the factors causing or pushing towards those changes also influencing target sites. What

may be evidenced in evaluation results is the absence of change in target sites and undesirable changes in control sites or undesirable changes in both target and control sites, but to a smaller degree in target. Without control sites the statistical results would lead to the conclusion that the programme is not having an effect or is having an undesirable one. However, with control sites it would be evident that the programme is preventing the undesirable changes and consequently is having a desirable impact.

Both situations are evident in comparing wave 1-3 results for the full sample (with controls) to those for the subsample (without controls) used in this phase of data collection. Where discrepancies in the two sets of results occurred, the results for the new phase of research were interpreted within the context of the more valid results for the earlier phase. The relevant methodological issues are boxed and highlighted at appropriate sections of the report.

These differences between research designs highlight the importance of controls in evaluating programmes. At this phase of the evaluation, however, the loss of controls is not as critical as it would have been if no control sites were used when examining the effectiveness of the programme. The focus of this phase is to establish whether there continues to be evidence that the programme is being sustained in schools and whether results produced by the programme between wave 1 and 3 remained constant in wave 4, i.e. whether the programme effect can be maintained over time or whether there is a deterioration of effect.

TEACHER SUMMARY

The purpose of this chapter is to examine whether changes that occurred by wave 3 (18 months – Nyanza; 14 months - Rift Valley) in how teachers presented the HIV/AIDS materials in their schools and in their knowledge about HIV/AIDS were sustained at wave 4 (30 and 26 months after initial training). This is done primarily through the use of regression coefficients and odds ratios produced using ordinary least squares (OLS) regression and logistic regression respectively. In both cases, teacher responses to survey questions in wave 3 were compared to responses in wave 1 to establish the degree and direction of change during the original evaluation period once control schools were removed; then responses in wave 3 were compared to wave 4. Coefficients and odds ratios were calculated separately for schools in Nyanza and Rift Valley.

Interpretation and Presentation of Results

It can be concluded that PSABH has had the desired effect and has sustained this effect 30 and 26 months after teachers participated in the first training session if one of two results are evident in the coefficients or odds ratios:

A. Levels reached at wave 3 are better than at wave 1 and wave 3 levels are replicated in wave 4.

Evidence for this includes:

(1) Statistically significant coefficients or odds ratios for wave 1 to 3 changes that reflect change in the desired direction (most often these are increases); and

(2) Coefficients and odds ratios for wave 3 to 4 changes are either not significant (sustained change) or significant and reflect an additional change in the desired direction.

OR

B. Although wave 1 to 3 changes are not significant, levels reached at wave 4 are significantly better than at wave 1.

There is evidence for this when there are no significant changes from waves 1 to 3, but changes become significant by the time wave 4 data are collected.

The 'comments' section in tables is used to identify when a change meets either of the above requirements (A or B), or when some other pattern of interest is evident. Survey and in-depth interviews are used together to provide more detailed information about what is happening in schools.

A number of sub-samples of teachers responding to surveys were compared, including:

- PSABH trained teachers were compared to not trained teachers
- Head teachers were compared to non-Head teachers
- Standard 6, 7 and 8 teachers were compared to other teachers

When significant differences were found, results are presented and discussed in the text.

This chapter includes:

- An overview of the teachers who responded to the survey at wave 4
- Training and Evidence of Cascade
- Programme Implementation
- Availability and Use of Resources

- Teaching about Abstinence
- Attitudes Regarding HIV/AIDS, Sexuality and Condom Use
- Barriers to Teaching About HIV/AIDS
- Knowledge
- Effect of Loss of Teachers on Programme

Sample Overview

According to reports from the Steadman field team, of the 17 Nyanza and 13 Rift Valley schools where there was no confirmed loss of the trained head teacher, in 4 and 2 respectively, the trained head teacher was not available during data collection and thus it was difficult to verify whether they were still at the school. Similarly, at 6 Nyanza and 6 Rift Valley schools the trained senior or peer supporter teacher were not present during data collection.

When the trained head teacher or teacher were not available to complete the survey, an untrained teacher did so.

Table T1: Percentage of Teachers Surveyed Involved in Specific Teaching Roles (several teachers held multiple positions)

Teaching Role	Nyanza			Rift		
	W1[7]	W3	W4	W1	W3	W4
N=	50	40	40	60	40	41
Head Teacher	16%	42%	30%	22%	42%	34%
Deputy Head Teacher	22%	20%	25%	22%	15%	15%
Standard 1-5	22%	22%	22%	27%	32%	24%
Standard 6-7	42%	58%	50%	28%	25%	15%
Standard 8	26%	28%	22%	23%	12%	17%
Guidance & Counselling	34%	50%	30%	28%	30%	17%

It is not uncommon for teachers to hold as many as 5 roles within a school. Teachers may change roles from year to year; therefore, a teacher who may have been working with Standard 6 and/or 7 pupils at the time of training may now be teaching at an entirely different level. This may be the case for those teachers who indicated that they are teaching standards other than 6 or 7 but have been trained through PSABH.

Views of PSABH Training and Evidence of Cascade

Table T2: Percent of Teachers Reporting Different Types of Training

Teaching Role		Nyanza			Rift		
		W1[7]	W3	W4	W1	W3	W4
Attended PSABH training	% (n)	N/A	75% (40)	72% (39)	N/A	70% (40)	66% (41)
Undertaken AIDS training w/ staff	% (n)	N/A	71% (28)	89% (28)	N/A	70% (27)	100% (27)
Received training from trained staff	% (n)	N/A	75% (20)	71% (28)	N/A	50% (40)	70% (27)

Note: The number of teachers on which percentages are based changes, sample sizes are indicated in brackets
N/A: No data available for one of the waves.

[7] W1 data were collected before PSABH training.
W3 data were collected in Nyanza 18 months after training and in Rift 14 months after training.
W4 data were collected Nyanza 30 months after training and in Rift 26 months after training.

By wave 4 only those teachers who had received PSABH training were reporting that they had trained other staff. However, in Nyanza, not all teachers who had received PSABH training indicated that they had undertaken training with staff.

Although there wasn't always agreement about the nature of the training delivered to fellow teachers, virtually all of those interviewed indicated that some form of teacher training had taken place. According to qualitative interviews, sessions ranged from 30 minutes to 3 hours and covered topics including integration and infusion, question box, health club, PLWA, transmission, and abstinence. Those interviewed felt that their colleagues generally responded well to training. Training leaders were able to deal with concerns by adjusting their techniques as required.

> *We had to reduce the hours…By going very fast and introducing other activities that will not make them tired. Breaks were also there* (W4NHT32:155-159).

One teacher reported bringing in other 'experts' as needed while another changed the sessions to accommodate the teachers' needs and provided resources to aid understanding.

> *I think that is why we took two days because of the practical part of it. We went one step further, we used teaching aids. We drew sample lesson plans on manila paper. We hung them in the library where teachers would go copy and try to use them and by and by they have implemented it. When I am checking their scheme I see that they have gotten the information* (W4RHT31:374-378).

Those interviewed felt that refresher training would be an important avenue to ensure that teachers had access to the most up-to-date skills and information. They also indicated that there was a need for further training on dealing with the community, guidance and counseling, caring for those infected and affected, VCT, opportunistic infections, and technical information about HIV/AIDS. Some indicated a need for a greater variety of resources, including videos.

Programme Implementation[8]

METHODOLOGICAL NOTE: EFFECT OF ABSENCE OF CONTROL SCHOOLS

During the 14-18 month evaluation period it was evident that teachers in control schools were engaging in HIV prevention education even without the benefit of PSABH training. These activities were at their lowest level in all schools in November 2001 and increased in all control as well as target schools to the final point of data collection in October 2003. The diversity and extent of activities in control schools was significantly less, however, than in schools where teachers were trained by PSABH. With the loss of control sites, we can expect changes in research sites from pre-programme (wave 1) to any point after programme implementation (e.g. waves 3 and 4) to appear particularly strong. What must be recognized is that some of these changes are likely to also be occurring in schools where teachers have not been trained in PSABH.

[8] The programme implementation scale used here is not the same scale used in the 14-18 month evaluation report since teachers were asked fewer questions about HIV/AIDS activities during wave 4 data collection than they had been asked in earlier waves and the scale had to be modified for the current analysis. For this analysis, the implementation scale is composed of responses to questions about addressing HIV in specific courses and in various activities in and around the school as well as the availability and use of resource materials.

Table T3: OLS Regression Coefficients Comparing Waves 3 to 1 and 4 to 3 for Overall Implementation Score and Subjects in Which Teachers are Addressing HIV

Courses	Nyanza			Rift		
	W 1-3	W 3-4	Comments	W 1-3	W 3-4	Comments
N=	90	80		100	80	
Overall Implementation Score	4.37 (3.60, 5.14)	3.15 (2.33, 3.96)	A	1.51 (.73, 2.28)	1.45 (.61, 2.30)	A
English	2.35 (1.57, 3.12)	1.67 (.86, 2.49)	A	NS	NS	
GHC	1.23 (.37, 2.09)	1.06 (.16, 1.97)	A	.76 (.10, 1.41)	.99 (.28, 1.71)	A
HIV	2.22 (1.41, 3.03)	1.96 (1.11, 2.81)	A	1.29 (.47, 2.10)	.91 (.01, 1.80)	A
Homescience	NS	NS		NS	NS	
Kiswahili	1.16 (.43, 1.88)	1.25 (.48, 2.02)	A	NS	NS	
Music	1.25 (.52, 1.98)	1.10 (.33, 1.87)	A	NS	NS	
P.E.	1.40 (.65, 2.14)	1.42 (.63, 2.21)	A	NS	NS	
Religion	1.33 (.46, 2.20)	.81 (-.11, 1.73)	A	NS	NS	

NS: There were no statistically significant differences across waves of data collection.
A: wave 1 to 3 change significant and in the desired direction plus wave 3 to 4 either no change or an additional change in the desired direction;
B: wave 1 to 3 change not significant, but wave 1 to 4 change significant and in the desired direction

Gains were made in implementation from wave 1 to wave 3 and also from wave 3 to wave 4. In Nyanza, these changes occurred in frequency of addressing HIV in all subjects except home science. In Rift Valley, however, the only significant change was found in teaching about HIV in GHC and HIV classes.

The majority of teachers who reported that they were teaching a subject also reported that they had included HIV information in that subject at least once in the past term. Qualitative interviews highlighted some of the ways that teachers integrated and infused this information.

Although teachers initially reported in qualitative interviews that it was particularly difficult to deliver HIV/AIDS education in certain subjects, HIV is now being integrated into many of the courses. Qualitative interviews in wave 4 provided examples of the ways that teachers have integrated HIV education into GHC, science, Kiswahili, English, homescience, and math. It was further noted that HIV is integrated in the syllabus so that teachers are sure to teach the subject.

> *You know in modern syllabus, it is there so you don't skip it you have to teach it because it is already written there from the course books* (W4RST4:232-233).

One teacher even suggested that if he could not find a way to integrate the information, he would take 5 minutes to discuss it with his class outside of the lesson.

> *But there are some topics it is difficult to infuse so what you simply do is take five or so minutes and talk about AIDS* (W4NST33:130-131).

METHODOLOGICAL NOTE: QUALITATIVE AND QUANTITATIVE DISCREPANCIES

The reports provided by teachers about HIV teaching in classroom subjects should be considered in light of reports of pupils about whether and how much they were being taught about HIV in their classroom subjects. In focus groups, pupils consistently agreed that HIV was being addressed in classes. In pupil surveys in 10 of the 20 Nyanza schools and 12 of the 20 Rift Valley schools there was considerable disagreement in pupil responses on whether or not HIV/AIDS was being taught in various school subjects. In interviews, teachers frequently described how they used HIV or AIDS to illustrate a lesson. For example, a statistic about HIV would be used in a math problem or the presence of AIDS in a community would be used to illustrate a particular pattern of events. While teachers considered this to be including HIV in classroom subjects, pupils may not have remembered these instances or may not have viewed them as an actual lesson about HIV. This suggests that teachers and pupils may report the presence of 'teaching about HIV or AIDS' differently because they do not interpret what is being taught in the same way.

Table T4: Percentage of Teachers Reporting Each Method Was Used at Least Once to Address HIV (measured in W4 only)

Method	Nyanza	Rift
N=	40	41
Notices on boards	78%	68%
Questions and Answers	98%	88%
Whole class discussions	95%	83%
Pupils activities alone	68%	44%
Pupils activities in groups	85%	44%
Debates	80%	39%
Drama	88%	49%
Class competitions	65%	27%

Questions and answers and whole class discussions about HIV and AIDS are nearly universal in Nyanza and are the most common methods used in Rift Valley. While at least 65% of the teachers surveyed in Nyanza use each of these methods, Rift Valley lags significantly behind in all areas. It is the more interactive and participatory activities where Rift Valley schools fall behind Nyanza.

When examining particular teacher sub-samples, a number of significant differences were found:

- Standard 6-8 teachers in Nyanza were significantly more likely to use 'pupil activities alone' than were teachers in other grades; whereas in Rift Valley, standard 6-8 teachers were significantly more likely to report using class competitions.
- Head teachers in Nyanza were significantly more likely to use 'pupil activities alone" than those who were not head teachers.

In addition, in qualitative interviews, teachers also discussed the use of the following methods:

- Group discussions with report back to class and teacher summary;
- Media materials collected and displayed in class, videos;
- Charts;
- Creative work such as poems, songs, essay writing, drawings and poster displays;
- Story telling – including relating personal experiences;
- Textbooks (as alternate sources of information).

Although many of the teachers interviewed thought that dramas engaged the pupils and therefore worked well, there was one teacher who explained that dramas required too many resources and were therefore problematic. Songs, music and poems were cited as being a positive (and inexpensive) way to engage pupils in the information. Teachers also suggested that there are regional and national competitions through which pupils have the opportunity to share their creative work.

Table T5: OLS Regression Coefficients Comparing Wave 3 to 1 and 4 to 3 in How HIV is Addressed Around the School

Method	Nyanza			Rift		
	W 1-3	W 3-4	Comments	W 1-3	W 3-4	Comments
N=	90	80		100	80	
Assembly	.57 (.23, .91)	.26 (-.10, .62)	A	NS	NS	
Staff Meetings	.22 (-.11, .56)	.59 (.23, .94)	B	NS	NS	
Classroom work displays	1.07 (.68, 1.46)	.98 (.57, 1.40)	A	.65 (.26, 1.03)	.39 (-.03, .82)	A
School work displays	.73 (.34, 1.13)	.52 (.10, .93)	A	NS	NS	
Debates	.43 (.04, .83)	.47 (.05, .89)	A	NS	NS	
Drama/Music Festivals	-.20 (-.58, .19)	.48 (.07, .88)	B	NS	NS	
Class competitions	.49 (.12, .87)	.40 (.002, .79)	A	NS	NS	
Information corner	1.32 (.94, 1.70)	.61 (.21, 1.01)	A	.90 (.52, 1.28)	.54 (.12, .96)	A

NS: There were no statistically significant differences across waves of data collection.
A: wave 1 to 3 change significant and in the desired direction plus wave 3 to 4 either no change or an additional change in the desired direction;
B: wave 1 to 3 change not significant, but wave 1 to 4 change significant and in the desired direction

In Nyanza, by wave 4 there were significant increases in the delivery of HIV information in all activities listed in the above table. Teachers in Rift Valley schools reported fewer activities, with increases only in classroom work displays and the information corner. However, standard 6-8 teachers in Rift Valley were significantly more likely than teachers in other grades to report that HIV information was present in drama and music festivals and in the information corner.

In interviews during wave 3, teachers commented that debates were inappropriate since they implied that there was validity to the two sides of the debate, which was not the case for information related to HIV/AIDS. In interviews during wave 4, however, teachers indicated that students were engaging in more conversation about HIV/AIDS in the school especially at assemblies, during games, and even that debates were taking place.

> *When we go for assembly, we say we need to talk about a certain topic like HIV/AIDS and the pupils start the topics. Sometimes during games we also call them and we sit and discuss. These days they are very open and very happy* (W4NST32:169-171).

> [Pupils and teachers] *don't fear ask anybody even during debates they infuse these messages* (W4RST31:182-183).

As well, teachers reported that pupils were being given the opportunity to provide the materials for classroom displays and the information corner.

> *…if you go to classes, you will see information corners and children come up with cartoons, verses, compositions and they are put in information corners and they talk about HIV* (W4RHT30:64-67).

Availability and Use of Resources

Table T6: Odds Ratios Comparing Wave 3 to 1 and 4 to 3 in Reported Availability of Resource Material to Support HIV/AIDS Education

Resource	Nyanza			Rift		
	W 1-3	W 3-4	Comments	W 1-3	W 3-4	Comments
N=	90	80		100	80	
Teacher reference books	15.15 (1.90, 125)	.49 (.04, 5.60)	A	NS	NS	
Class text books	250 (28.57, ∞[9])	.23 (.02, 2.16)	A	9.17 (.12, 26.32)	1.81 (.40, 8.14)	B
Class worksheet	5.95 (1.53, 23.26)	.88 (.32, 2.38)	A	NS	NS	
Radio or Video Recordings	NS	NS		.40 (.08, 2.02)	0	
Poster	2.08 (.88, 4.93)	1.66 (.61, 4.48)	B	3.42 (1.43, 8.26)	.72 (.27, 1.90)	A
Leaflets or magazines	NS	NS		NS	NS	
Storybooks	52.63 (14.49, 200)	.57 (.17, 1.93)	A	NS	NS	
Teacher training notes	34.48 (10.64, 111.11)	.64 (.22, 1.88)	A	3.42 (1.43, 8.26)	1.62 (.55, 4.78)	A

NS: There were no statistically significant differences across waves of data collection.
A: wave 1 to 3 change significant and in the desired direction plus wave 3 to 4 either no change or an additional change in the desired direction;
B: wave 1 to 3 change not significant, but wave 1 to 4 change significant and in the desired direction

In Nyanza, PSABH provided the whole range of KIE books – the ones most relevant to the age group in multiple copies and the others in just a few copies. Teacher reports confirm this as there were significant increases in the availability of almost all resources.

In Rift Valley, PSABH distributed only books of most relevance to the age group since by the time training began in Rift Valley, books were being distributed by KIE. Teachers reported that there were significant increases in the availability of class texts, posters and teacher training notes from wave 1 to 3. The levels achieved at wave 3 were maintained to wave 4.

The two resources where there was no increase were radio or video recordings and leaflets or magazines. These are resources which the programme never intended to provide except at the workshops.

[9] There were no class text books evident at wave 1, consequently the denominator of this boundary is 0.

In qualitative interviews several teachers highlighted the importance of teacher training notes.

> *Because there are some technical areas that you cannot answer without references, they wanted some notes on those particular areas that can help them mine could not help them because it was only one and here photocopying is expensive* (W4NHT14:188-192).

> *Well I can say the teachers who went for that training assembled us after that into one room and they enlightened us and gave us the notes* (W4RDHT4:58-59).

Table T7: OLS Regression Coefficients Comparing Wave 3 to 1, 4 to 3, and 4 to 1 in Reported Use of Resource Materials

Resource	Nyanza				Rift			
	W1-3	W3-4	W1-4	Comments	W1-3	W3-4	W1-4	Comments
N=	90	80	90		100	80	100	
AIDS Education Syllabus	N/A	N/A	4.73 (4.25, 5.20)	B	N/A	N/A	N/A	
Lets Talk about AIDS: Facilitator's Handbook	2.67 (2.20, 3.13)	1.48 (.99, 1.97)		A	1.26 (.72, 1.81)	.89 (.30, 1.49)		A
Lets Talk about AIDS: Book 1	N/A	N/A	4.12 (3.48, 4.76)	B	N/A	N/A	NS	
Lets Talk about AIDS: Book 2	N/A	N/A	4.36 (3.79, 4.94)	B	N/A	N/A	NS	
Lets Talk about AIDS: Book 3	2.83 (2.39, 3.27)	1.69 (1.22, 2.16)		A	1.15 (.56, 1.75)	.68 (.02, 1.33)		A
Good Health Magazine	N/A	N/A	2.63 (1.74, 3.52)	B	N/A	N/A	-.88 (-1.68, -.09)	
Facts about STDs and AIDS	N/A	N/A	3.91 (3.30, 4.52)	B	N/A	N/A	N/A	
HIV and AIDS readers (green)	2.46 (1.94, 2.98)	1.00 (.45, 1.55)		A	1.30 (.77, 1.84)	.84 (.26, 1.43)		B
AIDS Handbook (blue)	1.86 (1.35, 2.38)	1.51 (.96, 2.05)		A	.79 (.26, 1.32)	.39 (-.18, .98)		A
Bloom or Doom	N/A	N/A	3.56 (2.88, 4.25)	B	N/A	N/A	NS	
Choices	N/A	N/A	2.59 (1.91, 3.27)	B	N/A	N/A	-2.15 (-3.35, -.96)	
AIDS education for youth	2.72 (2.24, 3.19)	1.58 (1.08, 2.08)		A	N/A	-.21 (-.83, .42)	N/A	

N/A – No data available for one of the waves.
NS: There were no statistically significant differences across waves of data collection.
A: wave 1 to 3 change significant and in the desired direction plus wave 3 to 4 either no change or an additional change in the desired direction;
B: wave 1 to 3 change not significant, but wave 1 to 4 change significant and in the desired direction

Where reported, there were significant increases in the frequency with which all of the identified resources were used in Nyanza. In addition, trained teachers in Nyanza were significantly more likely than not trained teachers to use the *AIDS handbook* and *AIDS education for youth*. The picture for Rift Valley schools is mixed. Head teachers in Rift were significantly more likely to use the *Lets Talk About AIDS Handbook* than their non-Head teacher counterparts. And while all teachers increased their use of the *Lets Talk about AIDS* books as well as the *HIV and AIDS readers* and *AIDS Handbook,* there was a significant decrease in reported use of *Good Health Magazine* and *Choices* from wave 1 to 4. It should be noted that these resources were not provided by the PSABH program to Rift Valley schools.

Teaching About Abstinence

Table T8: Regression Coefficients and Odds Ratios Comparing Teaching About Abstinence for Waves 3 to 2 and 4 to 3.

Teaching About	Nyanza			Rift	
	W2-3	W3-4	Comments	W3-4	Comments
N=	79	80		80	
Teaching Abstinence Scale[a]	NS	NS		NS	
How to resist playing sex[b]	NS	NS		NS	
How to control natural urges[b]	NS	NS		NS	
Abstain when friends pushing[b]	NS	NS		NS	
Abstain when boy/girlfriend wants to play sex[b]	5.05 (1.48, 17.24)	.44 (.12, 1.62)	C	NS	
Avoid playing sex with older person[b]	NS	NS		NS	

[a] OLS Regression, [b] Logistic Regression
NS: There were no statistically significant differences across waves of data collection.
C: wave 2 to 3 change significant and in the desired direction plus no change wave 3 to 4.

Teaching specific strategies for abstinence was an emerging issue from wave 1 and was incorporated into the second teacher training course and wave 2 data collection. Between 60% and 90% of teachers indicated that they were teaching specific strategies for abstinence from the initial point of data collection. Of interest is that the abstinence strategy where teaching increased over waves of data collection was teaching how to abstain when a boy or girlfriend wants to play sex, with this increase only evidenced in Nyanza schools. Pupil results for these questions were consistent with teacher results, as were references to teaching about abstinence in focus group discussions with pupils. Also, although there were no significant differences between trained and not trained teachers in Nyanza, trained teachers in Rift Valley were significantly more likely than those who were not trained to report addressing how to abstain when your boy/girlfriend wants to play sex and how to avoid playing sex with older persons.

In qualitative interviews, teachers maintained the primacy of the abstinence message with a particular focus on the approach of avoiding situations or people that may involve you in sex:

> *We also tell them to avoid places where they may be lured…*(W4NHT14:345).
>
> *The other major one is visiting relatives because they will not take care of them as a parent would. That is why we tell them to avoid visiting relative during school holidays* (W4NST33:315-317).
>
> *I have told them to avoid sharing cutting tools* (W4RHT1:474).
>
> *We tell them to avoid making friends with boys or even having male friends* (W4RST4:91-92).

Attitudes Regarding HIV/AIDS, Sexuality and Condom Use

Attitudes related to teaching about HIV/AIDS were highly favorable at wave 1 and continued to be favorable at wave 3. Teachers were in clear agreement that teaching about HIV/AIDS was appropriate and necessary in upper primary grades. The only question where attitudes were not highly favorable dealt with teaching about condoms. Here the majority of teachers rated this as encouraging pupils to play sex. None of these attitudes changed over the waves of data collection. The vast majority of teachers still felt positively about teaching about HIV, AIDS and sexuality at wave 4, but only a minority felt this way about condoms.

Two additional questions were added in wave 4. These asked opinions on the ability of men and women to remain faithful to one partner. A large majority of teachers surveyed provided the same response for male and female circumstances – i.e., if the respondent strongly agreed with the statement "It is possible for a man to remain faithful to one marriage partner for life", he/she strongly agreed with the statement "It is possible for a woman to remain faithful to one marriage partner for life".

Table T9: Percentage of Teachers Who Strongly Agreed By Gender (wave 4 only)

	Nyanza		Rift	
	Males	**Females**	**Males**	**Females**
N=	30	10	27	14
It is possible for a man to remain faithful to one marriage partner for life	87%	50%	89%	93%
It is possible for a woman to remain faithful to one marriage partner for life	83%	70%	78%	100%

Of note is that more female teachers in Rift Valley were likely to endorse both statements about fidelity than were female teachers in Nyanza, while males were about equal in both provinces. In both Nyanza and Rift Valley, teachers who agreed that a person is less likely to become infected with HIV if they have fewer partners, were also significantly more likely to strongly agree that a man could remain faithful to one marriage partner for life. In Rift Valley, the same could be said about the responses to the statement about whether a woman could remain faithful to one marriage partner.

Barriers to Teaching About HIV/AIDS

Table T10: OLS Regression Coefficients Comparing Perceived Barriers to Teaching About HIV/AIDS:

Barrier Statement	Nyanza			Rift		
	W 1-3	W 3-4	Comments	W 1-3	W 3-4	Comments
N=	90	80		100	80	
Scale on Absence of Barriers to Teaching about HIV/AIDS	1.52 (.77, 2.27)	.55 (-.24, 1.35)	A	NS	NS	
Not enough time to teach HIV	NS	NS		NS	NS	
Teachers have enough training†	1.54 (.86, 2.23)	1.45 (.72, 2.17)	A	1.01 (.38, 1.64)	1.14 (.44, 1.83)	A
Parents reluctant to let teachers address sex & HIV	NS	NS		NS	NS	
Have enough textbooks†	3.03 (2.37, 3.67)	.76 (.07, 1.46)	A	.94 (.25, 1.64)	.71 (-.05, 1.46)	A
Teachers feel comfortable talking about HIV/AIDS with pupils†	NS	NS		NS	NS	
Teaching HIV/AIDS does more harm than good	NS	NS		NS	NS	
Pupils too shy to talk about sexual behaviour	NS	NS		NS	NS	
Std 6-8 pupils old enough to talk about sexual behaviour†	NS	NS		NS	NS	
Inappropriate to talk to young people of any age about sex	NS	NS		NS	NS	

† Wording of the question changed in wave 4, results should be viewed with caution.
NS: There were no statistically significant differences across waves of data collection.
A: wave 1 to 3 change significant and in the desired direction plus wave 3 to 4 either no change or an additional change in the desired direction.

In Nyanza, teachers saw fewer barriers, overall, to teaching about HIV/AIDS in wave 3 compared to wave 1 and maintained or improved the wave 3 position in wave 4. When we examine responses to the specific questions that comprised the scale on barriers to teaching, we see that responses changed on only two items. In both cases, the changes were evidenced in both Nyanza and Rift Valley schools. By wave 4, teachers felt they had enough training and enough textbooks. In both cases, the main gains in these areas were between waves 1 and 3. This response is not surprising since PSABH provided training and textbooks.

In qualitative interviews, some teachers still indicated that a lack of time continued to hinder the school's ability to fully implement all aspects of PSABH, e.g., some teachers felt they didn't have time to be creative about the methods used in class, and, in one school, teachers were too busy to participate in the health club so it had been disbanded.

Research in other settings has consistently demonstrated that the visible presence of AIDS in a community can motivate individuals to take action to change their own behaviour or to actively promote prevention education for others. Teachers were asked in surveys and interviews about whether they knew people in their community who were infected or who had died of AIDS and in interviews they talked about the visibility of HIV in their community and how this influenced their approach to HIV prevention education. By wave 4, almost all teachers in both Nyanza and Rift Valley knew someone in the village who was HIV+, and all knew someone who had died of AIDS.

Table T11: Percentage of Teachers Who Report HIV/AIDS in the Community

	Nyanza		Rift
	W3	**W4**	**W4**
N=	39	40	40
Know someone in village who is HIV+	54%	85%	90%
Know someone in village who died of AIDS	90%	100%	100%

In qualitative interviews, some teachers indicated that their awareness of the presence of HIV/AIDS in the community and the number of people affected by it was a motivating factor for educating the youth.

> *Because many people are now infected and affected by HIV/AIDS, so I want to be in a position where I can help those who are affected and infected* (W4NHT33:66-67).

Teachers were also concerned that young people infected and affected by HIV/AIDS were having difficulty with HIV education.

> *The orphans feel so stigmatised that they do not want to study that day, some of them are not prepared for that and the day ends without them learning* (W4RDHT4:278-280).

Concern for these students resulted in one school stopping HIV education for a term.

> *…we noted that she* [an orphan being supported by the school] *is falling back on her studies if this thing* [HIV/AIDS] *is talked about, but if you do not talk about it in the morning she is jovial the whole day. So we decided to stop it this term so that they do not get affected* (W4DHT4:291-294).

Knowledge

Table T12: Regression Coefficients and Odds Ratios Comparing Teacher Knowledge From Wave 3 to 1 and 4 to 3 For Scores on Full Knowledge Scale and Scale Items

Statement	Nyanza			Rift		
	W 1-3	W 3-4	Comments	W 1-3	W 3-4	Comments
N=	90	80		100	80	
Summative Knowledge[a]	NS	NS		NS	NS	
Avoid having sex[b]	NS	NS		NS	NS	
Have fewer sexual partners[b]	NS	NS		NS	NS	
Don't share razor blades[b]	NS	NS		0	1.63 (.47, 5.64)	
Always use condom correctly[b]	NS	NS		4.52 (1.54, 13.33)	.62 (.18, 2.11)	A
Be faithful to 1 uninfected partner[b]	NS	NS		NS	NS	
Injections done with clean needles[b]	NS	NS		NS	NS	
Sterile instruments for circumcision[b]	N/A	NS		N/A	NS	
Don't wear clothes of PLWA[b]	.80 (.33, 1.92)	3.78 (1.29, 11.06)	B	3.12 (1.30, 7.41)	.64 (.25, 1.63)	A
Avoid sex with thin people[b]	3.73 (1.22, 11.36)	.43 (.13, 1.39)	A	NS	NS	
Avoid sharing plate with PLWA[b]	NS	NS		.67 (.29, 1.58)	4.70 (1.50, 14.67)	B
Avoid insect (mosquito) bites[b]	NS	NS		NS	NS	
Avoid shaking hands with PLWA[b]	NS	NS		NS	NS	

[a] OLS Regression, [b] Logistic Regression
N/A: No data available for one of the waves.
NS: There were no statistically significant differences across waves of data collection.
A: wave 1 to 3 change significant and in the desired direction plus wave 3 to 4 either no change or an additional change in the desired direction;
B: wave 1 to 3 change not significant, but wave 1 to 4 change significant and in the desired direction

There was little change in teachers' knowledge about HIV/AIDS over the waves of data collection. This is not surprising since knowledge was generally high at wave 1 (i.e., the teachers responded to 75% or more of the items correctly). When examining the specific items it is noteworthy that teachers in Rift Valley improved their responses to questions on condoms. In addition, more teachers recognized that wearing the clothes of someone with HIV, avoiding sex with thin people (Nyanza) and not sharing a plate of food with a PLWHA (Rift Valley) did not contribute to protection against infection.

When examining sub-samples of teachers there were some significant differences found for teacher knowledge in Nyanza. Non-Head teachers scored significantly better on average on knowledge than did Head teachers. This difference was significant with respect to the percentage of teachers who correctly responded to questions about avoidance of HIV transmission through abstinence and the use of clean needles and sterile instruments. As well, non-Head teachers were significantly more likely to correctly recognize that HIV cannot be transmitted by wearing the cloths of a person living with AIDS. There were no significant differences in the knowledge of Head teachers and non-Head teachers in Rift Valley.

Table T13: Odds Ratios Comparing Changes in Additional Knowledge Items Waves 2 to 3 and 3 to 4.

Statement	Nyanza			Rift	
	W 2-3	W 3-4	Comments	W 3-4	Comments
N=	79	80		80	
Primary pupils can get AIDS	NS	NS		NS	
PLWA can test –ve in window period	NS	NS		NS	
STDs cause wounds easier to transmit HIV	NS	NS		NS	
Resistance reduced by STDs	NS	NS		NS	
PLWAs can test –ve after seeing traditional healer	NS	NS		3.68 (.92, 14.76)	
PLWAs can test –ve after devout prayers	NS	NS		NS	
STDs show poor hygiene	1.16 (.47, 2.83)	12.67 (2.67, 60.05)	C	2.75 (1.01, 7.46)	C
Untreated STD automatically turns to HIV	NS	NS		NS	

NS: There were no statistically significant differences across waves of data collection.
C: wave 3 to 4 change significant and in the desired direction

Information on the items in the above table started being collected in wave 2, i.e., there is no pre-programme baseline information. As in the previous knowledge items, high rates of correct knowledge on many items at wave 2 made it difficult to obtain significant increases.

One area where problems are evident is in the connection between STDs and HIV. In one question we see a desirable progression among teachers - recognition that STDs do not show poor hygiene. In both Nyanza and Rift Valley, fewer than 60% of teachers responded correctly to this item in wave 2 but increased in wave 4 to over 95% correct in Nyanza and 80% correct in Rift.

Qualitative interviews suggested that even trained teachers continued to struggle with some of the technical information about HIV/AIDS, including the connection between STDs and HIV. In some schools, this was resolved by calling upon a medical or health practitioner. Some teachers suggested that further training was needed to better understand this information.

Effect of Loss of Teachers on Programme

According to Steadman field notes, at a minimum, all trained teachers in Kisindi have been transferred or have died. Undhine, Sudhe, and St. Patricks have lost two of their three trained teachers (1 Headteacher, 1 senior teacher and 1 peer supporter supervisor were trained). Kisindi tended to have lower than average teacher implementation and pupil participation

scores for their respective regions. In addition, fewer than 50% of the pupils in these schools reported that there was a health club in the school.

Of the latter 3 schools, (i.e., those which have likely lost 2 trained teachers), the mean teacher implementation scores are either close to or above average for their region. The schools' mean scores for pupil participation are slightly below average and all have fewer than 55% of pupils reporting that there is a health club. In the case of Sudhe, a very small number felt there was a question box.

Conclusion

Implementation of the different components of the programme either maintained the level attained at 18 and 14 months post training or continued to increase. Of concern is the poorer showing of Rift Valley schools compared to those in Nyanza. Other than differences inherent in the two regions, the only differences related to the delivery of PSABH training was that Rift Valley schools covered the cost of their teachers attending the training and of the training location and these schools received fewer books directly from PSABH since KIE was distributing books to all Kenya schools by the time Rift Valley was trained. It was expected that schools that shared in the cost of training would be more motivated to take up the activities. This was not the case in the full evaluation at 14 months and it is still not evident at 26 months. While there are some gains in Rift Valley schools, they are significantly below those in Nyanza.

Four emerging issues are evidenced in the teacher data. These will require attention in future research and programme modification:

- Attitudes and beliefs related to the sexual fidelity of partners.
- Confusion about the relationships between STIs and HIV.
- The needs of AIDS orphans in the context of teaching about HIV prevention and how to meet these needs.
- The effect on the program when all trained teachers are lost to a school.

PEER SUPPORTER SUMMARY

Peer supporters were trained in December 2002 in Nyanza and February 2003 in Rift Valley. Each of the 40 schools included in this phase of data collection sent 4 pupils and a teacher advisor to training with the majority of trained peer supporters in standard 6 or 7. This means that a certain proportion of them could be expected to have completed primary school, or to be in standard 8 by the time of data collection in October 2004. Teachers in interviews and pupils in focus groups suggested that this was the case in several schools. What needs to be considered is that standard 8 pupils did not complete surveys and consequently peer supporters in standard 8 are not included in any wave 4 survey results.

Presence of Peer Supporters in Schools

Table PS1 examines survey results to show how many schools have peer supporters. These results are based on a combination of teachers reporting there are peer supporters in their school and pupils reporting that they themselves were trained by PSABH as peer supporters.

Table PS1: Number of Schools Reported To Have Peer Supporters at Wave 4

	Nyanza	Rift
N=	20	20
Teachers and pupils both report PS	7	14
Teachers report PS are present, no pupils claim to be PS	8	1
Pupils claim to be PS, no teachers reported PSs present	2	3
Neither teachers nor pupils report PS	3	2

It is immediately evident that in most Rift Valley schools teachers were aware of the presence of peer supporters and some of the standard 6 and 7 pupils who completed surveys were themselves peer supporters. In Rift Valley it was teachers who themselves were not trained by PSABH who were most likely not to report peer supporters in their schools. In Nyanza, both teachers and pupils reported the presence of peer supporters in only 7 of the 20 schools. What may be the case in the 8 Nyanza and 1 Rift Valley school where teachers reported there were peer supporters but no pupils claimed to be peer supporters was that peer supporters were either absent from school on the day of the survey or were now in standard 8. In other words, these schools may actually have peer supporters, but they did not complete surveys. It is important to note that none of the teachers in any of the 5 schools where pupils claimed to be PSABH trained peer supporters but teachers reported there were no peer supporters had been PSABH trained. This suggests that they may not have been aware of the presence of PSABH trained peer supporters or of what these pupils could bring to the school. In addition, none of the teachers were PSABH trained in any of the 5 schools where neither teachers nor pupils reported there were peer supporters.

Table PS2: Number of Schools with Specific Numbers of Pupils Reporting They Are PSABH Trained Peer Supporters (W4 only)

# of peer supporters per school	Nyanza	Rift
Total N=	20	20
0	11	3
1	4	3
2	0	3
3	0	3
4	1	4
5 or more	4	4

The above table provides information on the number of pupils claiming to be PSABH trained peer supporters. Schools that had 5 or more pupils claiming to be trained peer supporters were inconsistent with training records. These 8 schools may actually have pupils who were trained through other programmes. Three schools had especially large numbers of pupils claiming to be trained. In Nyanza, Nyabi Komu had 24 and Nyaisa SDA had 17; in Rift Valley, Kamothai had 11. Since it is likely that most of these pupils were not actually PSABH trained, the results presented in the remainder of this chapter on the activities of the peer supporters must be interpreted with caution since many of those included in these results may not have the training to participate in the expected PSABH activities.

Peer Supporter Activities

Table PS3: Teacher and Peer Supporter Reports of Activities of Peer Supporters (W4 only)

	Nyanza			Rift		
	Number of schools where			Number of schools where		
	Teachers & PS report that PS are	Teachers only report that PS are	PS only report that PS are	Teachers & PS report that PS are	Teachers only report that PS are	PS only report that PS are
Helping to prepare answers for Question box	5	7	2	6	5	5
Leading club activities on H/A	4	9	3	8	4	5
Speaking to other pupils about H/A	5	10	2	11	3	4
Helping with class activity on H/A	5	9	2	10	3	4

In Nyanza, teachers appeared to be more aware of peer supporter activities than were pupils. However, in Rift Valley, both teachers and pupils were aware of peer supporter activities. In the large majority of schools, at least some peer supporters were involved in all the activities listed in Table PS3.

Where peer supporters existed and were discussed in qualitative interviews, their participation in AIDS education was described by pupils as including the following:

- Acting as role models
- Acting as peer counselors
- Practical demonstrations, leading in dramas, poems and songs in competitions
- Maintenance of the question box, and posters in school and class
- Members/leaders of school health club
- Collection and distribution of HIV materials
- Talking to pupils in and out of class, address other pupils at assemblies
- Leading visits and assistance for orphans and PLWA
- Helping teachers teach fellow students

In interviews, teachers highlighted the value of having peer supporters in the school.

> *They* [peer supporters] *tell them* [pupils] *about HIV/AIDS, what they have learnt, how it can spread and how they can prevent it. In short they have created the awareness* (W4NST32:317-318).

Teachers also provided examples of the commitment of peer supporters extending into the community:

> *I remember one time, they were playing and one of them was injured and one* [peer supporter] *was telling the other one* [a villager] *don't touch the blood with his bare hands* (W4RST31:696-698).

Table PS4: Percentage of Peer Supporters and Non Peer Supporters Reporting Activities (W4 only)

Activity	Nyanza		Rift	
	PS	Not PS	PS	Not PS
N=	64	1276	64	631
Involved in a peer supporter-pupil discussion about H/A	45%	40%	61%	52%
Involved in peer supporter-pupil discussion about condoms	44%	25%	27%	27%
Participated in a peer supporter led activity about H/A	45%	27%	48%	42%
Involved in a peer supporter-pupil discussion about ways to abstain from sex	52%	43%	56%	50%
Talked about H/A at the school health club	47%	36%	45%	42%

Survey results indicated that approximately half of pupils who claimed to be trained peer supporters were actively engaged in HIV/AIDS prevention support with their peers. They were most active in discussing HIV/AIDS and abstinence with other pupils. In Nyanza they were as likely to report discussing condoms as they were to report general discussions of HIV/AIDS; however, in Rift Valley, talking to pupils about condoms was well below talking about HIV/AIDS or abstinence.

In Nyanza two of the schools that provided pupils for focus group discussions had no peer supporters. Pupils commented that the absence of peer supporters was because they had completed primary school. Focus group participants from all Rift Valley schools reported peer supporters at their schools and, similar to the findings in wave 3, there were mixed results on how they were received by pupils. Some pupils talked about how peer supporters seemed too shy or embarrassed to answer questions about HIV/AIDS while others depended on peer supporters to act as role models and provide them with the 'truth'.

> *And what she* [the peer supporter] *tells us not to do she doesn't do* (Q4Ngirls32: 1064).

> [We like peer supporters because] *sometimes we think the teachers are lying to us* (W4R Boys1: 673-674).

Conclusions

Overall, peer supporters continued to play an active role in providing credible information to pupils regarding HIV/AIDS. Both teachers and pupils provided positive reports on the work of peer supporters in their schools. However, it is important to note that many of the trained peer supporters have completed primary school and therefore their presence in the schools was diminishing. It did not appear that schools had developed a mechanism for replacing peer supporters once they left school. In addition, there are other programmes being carried out in both Nyanza and Rift Valley which may be training peers within these communities.

The key emerging issue here is the apparent inability of schools to sustain a peer supporter programme once PSABH trained pupils leave the schools.

PUPIL SUMMARY

The purpose of this chapter is to examine whether changes that occurred by wave 3 in pupil KAB were sustained at wave 4 and whether the level of pupil involvement in PSABH activities has been maintained.

METHODOLOGICAL NOTE: EFFECT OF ABSENCE OF CONTROL SCHOOLS

Comparisons between target and control schools figured prominently in identifying changes in pupil knowledge, attitudes and particularly behaviours during the 14-18 month evaluation period. The effect of PSABH on pupils in target schools was either to move them in a desirable direction with respect to KAB, or to keep them from moving in the undesirable direction evident in pupils in control schools. In the first instance, PSABH could be credited with gains made by pupils; in the latter with preventing the undesirable trends evident in sites where PSABH was not operating. Without control schools, the gains, or movement in a desirable direction, are still evident in statistical tests, and they may, in fact, be stronger than those reported in the 14-18 month evaluation. Maintenance of positions (i.e. no change) will not be evident in a statistically significant result. In both instances results at this phase are interpreted in light of results obtained when control schools were in place.

Interpretation and Presentation of Results

Analyses of pupil data were run separately for boys and girls and controlled for age, standard and sexual experience prior to programme initiation (i.e. pre-programme virgin vs sexually experienced pre-programme). Application of these controls insured that the results were not influenced by differences between boys and girls, older and younger pupils, pupils in different standards, or pupils with different sexual histories. If there were statistically significant differences for students of differing age, standard or sexual experience, these are noted in the tables. Otherwise, only results comparing waves 1 to 3 and waves 3 to 4 are reported. Because of these statistical controls, the values reported for pupil data are considered **adjusted coefficients** or **adjusted odds ratios**.

It can be concluded that PSABH has had the desirable effect and has sustained this effect 30 and 26 months after teachers participated in the first training session if one of two possible results are evident in the coefficients or odds ratios:

A. Levels reached at wave 3 are better than at wave 1 and wave 3 levels are replicated in wave 4.

Evidence for this includes:

(1) Statistically significant coefficients or odds ratios for wave 1 to 3 changes that reflect change in the desired direction (most often these are increases); and

(2) Coefficients and odds ratios for wave 3 to 4 changes that are either not significant (sustained change) or significant and reflect an additional change in the desired direction.

OR

B. Levels reached at wave 4 are better than at wave 1.

There is evidence for this when there are no significant changes from waves 1 to 3, but changes become significant by the time wave 4 data are collected.

The 'comments' section of the tables is used to identify when a change meets either of the above requirements (A or B), or when some other pattern is evident. Survey and focus group discussions are used together to provide more detailed information about what is happening for pupils.

This chapter includes six sections:

- Participation in or awareness of the PSABH programme in the school.
- Knowledge about HIV/AIDS.
- Attitudes/beliefs, norms (I should) and agency/empowerment (I can).
- Pursuing information and communication with others about HIV/AIDS.
- Sexual and condom use behaviours.
- Programme maturation and dose response

Participation in or Awareness of the PSABH Programme in the School

Table P1: Adjusted Regression Coefficients and Odds Ratios for Wave 1-3 and Wave 3-4 Comparisons of Measures of Programme Participation and Awareness Controlling for Age, Standard, and Pre-programme Sexual Experience.

	Nyanza			Rift		
	W 1-3	W 3-4	Comments	W 1-3	W 3-4	Comments
Boys N=	1135	1325		580	582	
Participation/ Implementation Scale[a]	2.10 (1.80, 2.40) Greater gains STD 6 than 7	-.16 (-.44, .13)	A	1.37 (1.06, 1.67)	-.16 (-.44, .12) Significant gains STD 6	A
School has a health club[b]	2.27 (1.78, 2.86)	.78 (.63, .98)	C	1.69 (1.33, 2.17)	.93 (.75, 1.15)	A
School has a question box[b]	4.17 (3.33, 5.56)	1.15 (.9, 1.47)	A	3.70 (2.94, 4.76)	.69 (.56, .86)	C
Girls N=	891	1078		1540	1727	
Participation/ Implementation Scale[a]	1.19 (.83, 1.55) Greater gains: STD 7 and younger girls	-.30 (-.64, .04)	A	1.53 (1.26, 1.80) Greater gain PPV & younger girls	.05 (-.21, .31) Significant gains for younger girls	A
School has a health club[b]	2.32 (1.75, 3.22)	.40 (.31, .52)	C	1.75 (1.43, 2.13)	.64 (.53, .78)	C
School has a question box[b]	6.67 (5.00, 9.09)	.66 (.49, .77)	C	3.45 (2.78, 4.17)	.70 (.57, .87)	C

a. OLS Regression coefficients. b. Logistic Regression adjusted odds ratios.
A: wave 1 to 3 change significant and in the desired direction plus wave 3 to 4 either no change or an additional change in the desired direction.
C. Wave 1-3 change significant and in the desired direction, wave 3-4 change significant and opposite to the desired direction, but wave 4 level remains better than wave 1.
PPV: pre-programme virgins

In both Nyanza and Rift Valley the significant gains in overall participation scores from waves 1 to 3 were retained to wave 4. These results are supported by focus group discussions. In most communities, pupils reported that teaching about HIV/AIDS occurred in many different subjects as well as numerous other activities in the school, for example: drama, poems, debates, videos, and games.

When examining two specific components of the programme – school health clubs and question boxes – we again see the significant gains from waves 1 to 3. However, there is some

evidence of fall-off in both activities at wave 4. This is consistent with focus group discussions in some communities, and teacher reports in interviews. Pupils and teachers alike commented that although these activities were present in the school at one time, they had disappeared, usually due to peer supporters or teachers who had been in charge of these activities no longer being at the school, or teachers lacking time to devote to clubs. In one school, however, pupils believed that the question box had been removed by teachers for other reasons:

> *We used to have it but nowadays it was removed because the children were putting in dirty and abusive questions* (W4Ngirls33: 65-66)

> *Pupils used to write bad things.*
> *Very bad things.*
> *That are not relevant to the expected questions* (W4Nboys33: 353-357).

METHODOLOGICAL NOTE: QUALITATIVE AND QUANTITATIVE DISCREPANCIES

Where interviewers persisted in pushing for more information about the apparent demise of the health club or the question box, additional explanations for pupil claims were uncovered:

- In some schools another club was performing the activities of the health club.
- For some pupils, a statement that there was no club actually meant that they were not a member, even though there was a club.
- If the question box was temporarily absent from its usual location, some pupils reported that there was no question box – especially if they did not know why it was missing or whether it would be returned.

Different interpretations of what constitutes a 'health club,' the demise or reconstitution of a health club, the lack of membership of focus group and survey participants, or the temporary absence of a question box each contribute to how pupils answer questions. It seems clear that merely asking whether something exists is insufficient since responses to the question may reflect a variety of meanings and both temporary and permanent realities.

It should be noted that most pupils participating in focus groups did report having either a question box or health club. The question box continued to be well received by pupils who often referred to it as the best part of the programme. Pupils also reported learning a lot in health clubs when they were in place. However, it was more difficult to fully understand the impact of health clubs since pupils in focus groups often knew the school had such a club but they themselves were not directly involved with it.

Knowledge About HIV/AIDS

Table P2: Adjusted Regression Coefficients and Odds Ratios for Wave 1-3 and Wave 3-4 Comparisons of Measures of Knowledge Controlling for Age, Standard, and Pre-programme Sexual Experience.

	Nyanza			Rift		
	W 1-3	**W 3-4**	**Comments**	**W 1-3**	**W 3-4**	**Comments**
Boys N=	1135	1325		580	582	
Knowledge Scale[a]	-.38 (-.70, -.06)	-.39 (-.70, -.09)	A for PPV and older pupils only	-.44 (-.75, .-13) More loss from W1 to 3 for PPV	-.44 (-.73, -.16)	
Scored >50% on Knowledge Scale[b]	.58 (.46, .74)	3.36 (2.64, 4.27)	B	.49 (.39, .63)	3.6 (2.85, 4.58)	B
Girls N=	891	1078		1540	1727	
Knowledge Scale[a]	-.66 (-1.01, -.31) STD 6 lost less than STD 7	-.71 (-1.05, -.38)		-.46 (-.73, -.18)	-.30 (-.56, -.04)	
Scored >50% on Knowledge Scale[b]	.76 (.44, .75)	1.74 (1.34, 2.27)	B	.57 (.47, .70)	2.77 (2.26, 3.4)	B

a. OLS Regression coefficients. b. Logistic Regression adjusted odds ratios.
B: wave 1 to 3 change not significant, but wave 1 to 4 change significant and in the desired direction
PPV: pre-programme virgins

Mean scores on the knowledge scale consistently decreased for both boys and girls, in both Nyanza and Rift Valley schools, from wave 1 to 3 and again from wave 3 to 4. However, Nyanza boys who were pre-programme virgins (PPV) and who were older actually gained in knowledge across all waves of data collection. This contrasts with boys who were pre-programme virgins in Rift Valley who lost more ground in knowledge from waves 1-3 than other pupils.

When passing scores (i.e. scores >50%) on the knowledge scale were considered, the proportion of pupils who passed from waves 3 to 4, and consequently from waves 1 to 4, increased. Comparing these to results for mean scores suggests that those who had lower scores (e.g., failing) were showing gains (e.g., more are passing), while those who had higher scores were having difficulty sustaining these (e.g., they are obtaining passing, but lower overall scores).

The knowledge that pupils demonstrated in focus group discussions in both waves 3 and 4 portrayed a different picture than that evidenced in declining mean scores on knowledge tests. In both waves 3 and 4 pupils were able to accurately describe how HIV is transmitted, methods of preventing transmission, and the role of HIV testing. In addition, pupils in wave 4 asked more specific, detailed and sophisticated questions than were asked in prior waves.

> *People also pose questions concerning death, and on how people can develop the country (W4Nboys14: 175-176)*
>
> *To know when one can realize whether he/she has sexually transmitted diseases especially syphilis. (W4Nboys14: 195-196)*

If an HIV positive mother breastfeeds her child, will the child get AIDS? (W4Nboys32: 99)

Somebody asked why some girls have sex and do not get pregnant, yet others have sex once and get pregnant. (W4Ngirls14: 115-116)

Another pupil asked why do mosquitoes spread Malaria and not HIV/AIDS? (W4Rgirls1: 117)

In wave 3, focus group discussions demonstrated the beginning of critical thinking skills with respect to condoms; however, pupils typically did not identify condom use as a way to prevent HIV transmission. This changed by wave 4. Although youth spoke about the conflicting information that they received about condoms (as they had in waves 1 and 3), in some communities, pupils now included 'use condoms' in the list of ways to stay safe.

To [stay safe] avoid sex, be faithful in marriages, use condoms and avoid blood transfusion (W4Rgirls30: 280-281)

METHODOLOGICAL NOTE: QUALITATIVE AND QUANTITATIVE DISCREPANCIES
The strong foundation of knowledge demonstrated in focus groups is particularly relevant considering that the knowledge scores on survey questions were lower, on average, in the schools selected as qualitative sites than in other schools. This makes the contrast between discussions in focus groups and responses to survey questions even more startling. The consistency in findings in waves 3 and 4 suggests that the survey questions do not provide a good assessment of pupil knowledge.

Pupils also reported open discussions where factual information about condoms was being presented to them.

The teachers told us that you must first check the condom if it has expired. You must check the lubricant oil, if it is dry, it has expired. They said if you use expired condom, it can tear (W4Ngirls14: 163-166)

We were told that a condom can protect AIDS because the virus can't pass through not even sperms will pass through. (Q4Nboys32: 116-117)

If you use a condom correctly you won't get AIDS. (Q4Nboys32: 317)

In two communities, pupils mentioned visitors who came to the school to discuss condoms. Pupils provided very detailed information about what they had learned, including: the importance of expiry dates, not to keep condoms in your back pocket because they would get hot, to use condoms to prevent pregnancy and disease and carry them with you. Particularly noteworthy was that in one school there was a demonstration of how to put on a condom.

[The doctor] *had a stick and demonstrated how a condom is worn*. (W4Rboys31: 132)

In one community, teachers and siblings were all discussing condoms openly:

> *He* [a teacher] *told us to use condoms and girls should be the ones to dress the boy with the condom because he might intentionally make holes on it…He told us there are girls who do not use condoms and we should use condoms.*
> *Q: Why was he telling you to use condoms?
> *If you do not use, you may contract a dangerous disease. It can also help prevent pregnancy. It also protects from STD.* (W4Ngirls14: 393-405)

> *One of my brothers told me if I have to use a condom I should be the one to dress it on the boy* (W4Ngirls14: 477-478)

> *My older sister told me if a boy wants to have sex with me, I must tell him to use a condom and if he refuses, I must also refuse to engage in sex with him. Also to be careful because some of the boys pick condoms and they pretend they are not used so I should refuse to engage in sex with them* (W4Ngirls14: 482-486)

> *We were told that it depends on how you use it, if you use it well, and then it is 100% and when you fail to use well then it can fail you. So it depends on an individual's knowledge about it.* (W4Nboys14: 234-236)

Pupils in two communities mentioned having knowledge of female condoms. They indicated that information came from radio and television.

Attitudes/Beliefs, Norms and Agency/Empowerment

Table P3: Adjusted Odds Ratios for Wave 1-3 and Wave 3-4 Comparisons of Measures of Attitudes Toward Sexual Behaviour and Norms for Condom Use; Controlling for Age, Standard, and Pre-programme Sexual Experience.

	Nyanza			Rift		
	W 1-3	W 3-4	Comments	W 1-3	W 3-4	Comments
Boys N=	1135	1325		580	582	
I can say no to playing sex	1.49 (1.18, 1.92)	.61 (.49, .77)	C	1.45 (1.14, 1.85)	.39 (.32, .49)	C
A girl means 'no' when she says 'no'	1.25 (.98, 1.59)	.55 (.44, .69)	D	1.30 (1.04, 1.63)	.61 (.50, .75)	C
You should use a condom when playing sex	1.11 (.89, 1.43)	1.56 (1.23, 1.98)	B	.91 (.71, 1.14)	2.03 (1.63, 2.52)	B
Girls N=	891	1078		1540	1727	
I can say no to playing sex	2.5 (1.89, 3.33)	.39 (.40, .51)	C	1.54 (1.25, 1.89)	.39 (.32, .47)	C
A girl means 'no' when she says 'no'	1.14 (.87, 1.51)	.54 (.42, .71)	D	1.08 (.87, 1.33)	.40 (.32, .48)	
You should use a condom when playing sex	1.12 (.85, 1.47)	1.78 (1.37, 2.32)	B	1.08 (.88, 1.32)	1.78 (1.37, 2.32)	B

B: wave 1 to 3 change not significant, but wave 1 to 4 change significant and in the desired direction
C: wave 1 to 3 change significant and in desired direction, although wave 3 to 4 change significant and in an undesirable direction, wave 4 is still better than wave 1.
D: No significant change wave 1 to 3 but wave 3 to 4 change significant and in an undesirable direction.

In both Nyanza and Rift Valley the significant gains in both boys and girls believing they could 'say no to sex' between waves 1 and 3 showed small declines between waves 3 and 4. The

same was the case for any gains made in believing that a 'girl means no when she says no.' However, while there were no changes in normative beliefs (i.e., statements about what a person 'should' do) about using condoms from waves 1 to 3, there were significant gains in this area for both boys and girls in all schools from waves 3 to 4.

There is a curious situation when comparing qualitative and quantitative results. Pupils in the qualitative schools were less likely to report that they were being taught specific lessons about abstinence than those in schools where pupils did not participate in focus groups. Despite this, in the focus group discussions pupils continued to report they were being taught about abstinence and they felt that it was easy to 'say no' to sex and to abstain. They provided reasons why some people may find it difficult to 'say no' (e.g., biological drives) but still insisted that young people could and must find ways not to play sex. Pupils discussed the many people who talked to them about staying safe, including: teachers, mothers, fathers, grandmothers, church leaders and siblings. As in wave 3, both boys and girls discussed strategies they used to stay safe and the struggles they actively engaged in to avoid sexual activity. Both girls and boys appeared to be expressing a sense of control over their sexuality and in some communities they were receiving support for this control. In one community pupils reported that the head teacher was telling girls to report boys if they were pressuring them to play sex. In another, girls are being encouraged by teachers to take control:

> *We were told to tell boys off and to look in their eyes when saying no, we should not look down…. When you look them in the eye as you are saying no, they will know you are serious* (W4Ngirls14: 190-198).

Similar to the findings in wave 3, pupils continued to list ways that they could avoid situations that lead to sex, e.g., avoid the disco, avoid walking with people who do not go to your school, don't' take gifts, keep yourself busy, listen to God, pray, say no. However, they were also continuing their requests for more information regarding staying safe with condoms.

> [Teachers] *should tell us why they use the condoms and not us. We should use them to prevent ourselves from getting AIDS*. (Q4Nboys32: 489-490)

Given the differences in the results evidenced from responses to survey questions and those from focus group discussions, it is difficult to know what is happening with pupils' sense of agency or their attitudes in this area.

Pursuing Information and Communication with Others About HIV/AIDS

Table P4: Adjusted OLS Regression Coefficients for Wave 1-3 and Wave 3-4 Comparisons of Pursuing Information and Communication with Others Controlling for Age, Standard, and Pre-programme Sexual Experience.

	Nyanza			Rift		
	W 1-3	**W 3-4**	**Comments**	**W 1-3**	**W 3-4**	**Comments**
Boys N=	1135	1325		580	582	
Pursue Information about H/A	.13 (-.30, .55)	-1.08 (-1.67, .71)	A for PPV	-.45 (-.87, -.04)	-2.50 (-2.88, -2.11)	
Talk to female relatives about H/A	N/A	-2.14 (-2.51, -1.78) PPV & younger decreased less.		N/A	-1.33 (-1.68, -.99)	
Talk to male relatives about H/A	N/A	-2.53 (-2.98, -2.09) Younger decreased less.		N/A	-1.65 (-2.06, -1.24)	
Talk to others in community about H/A	N/A	-1.20 (-1.50, -.90)		N/A	-.77 (-1.04, -.50)	
Girls N=	891	1078		1540	1727	
Pursue Information about H/A	1.52 (1.08, 1.97)	-1.45 (-1.88, -1.03)	D	.88 (.52, 1.24)	-.13 (-.47, .21)	A
Talk to female relatives about H/A	N/A	-1.74 (-2.27, -1.21) Older decreased less		N/A	-1.40 (-1.80,-1.00) PPV decrease more.	
Talk to male relatives about H/A	N/A	-2.33 (-2.74, -1.91)		N/A	-.97 (-1.30, -.65)	
Talk to others in community about H/A	N/A	-1.40 (-1.74, -1.05) Younger decreased less than older.		N/A		

N/A: No data available for one of the waves.
A: wave 1 to 3 change significant and in the desired direction plus wave 3 to 4 either no change or an additional change in the desired direction;
D: Wave 1 to 3 changes significant and in desired direction, wave 3 to 4 changes significant and in undesirable direction.
PPV: pre-programme virgins

Survey results led to the conclusion that the gains made in pupils independently pursuing information about HIV/AIDS from waves 1 to 3 in the full sample of 160 schools in Nyanza and 60 in Rift Valley were only evident for Nyanza pupils in this smaller sample (20 Nyanza and 20 Rift Valley schools). By wave 4, however, these gains were reversed with the exception of girls in Rift Valley schools, who maintained the level of pursuing information attained at wave 3. There was also a general decrease in pupils communicating with members of their family or community about HIV/AIDS between waves 3 and 4. This could be because their information

needs were being met in school or elsewhere by wave 4, alternatively this could indicate some degree of 'saturation' or loss of interest in gaining more information or talking about HIV/AIDS based on too much information over too long a time period. Such a decrease in motivation has been observed in other countries over time. Young people no longer want to hear about AIDS any more, they feel they have been saturated with information.

As presented in the earlier section on attitudes, the picture for communication appears different in focus group discussions. In focus groups pupils spoke of parents, teachers and community members speaking to them. In wave 4 we may have a situation of adults talking to and instructing youth but not one of communication or youth seeking out adults for conversation on these matters. However, pupils did report that they spoke openly about HIV/AIDS in their community. It is only when discussing condoms that they mentioned only being able to talk to specific people, usually a person of the same sex.

> *You can't discuss about condom with your mother because you get on heat when discussing about condoms and you would not want to get on heat near your mother. It is better discussing about it with your peers or your father*. (W4Nboys33: 1209-1212)

However, in one community condom discussions were completely discouraged:

> *There is a boy who came with a chart of a condom and instead of the teacher telling us about condoms he abused the boy and beat him. So we are afraid and cannot ask him about condoms.* (W4Rboys30: 516-518)

From the survey and focus group results it is unclear how much and what kind of communication about HIV/AIDS is occurring.

Sexual and Condom Use Behaviour

Table P5: Adjusted OLS Regression Coefficients and Odds Ratios for Wave 1-3 and Wave 3-4 Comparisons of Measures of Sexual Experiences and Condom Use Controlling for Age, Standard, and Pre-programme Sexual Experience.

	Nyanza			Rift		
	W 1-3	W 3-4	Comments	W 1-3	W 3-4	Comments
Boys N=	1135	1325		580	582	
Experienced pressure to play sex[a]	N/A	-.89 (-1.14, -.63)	D	N/A	-.76 (-.99, -.52)	D
Sexual debut in past year[b]	.88 (.53, 1.44)	1.00 (.61, 1.67)		.81 (.72. 1.59)	.89 (.48, 1.64)	
Ever played sex[b]	1.59 (1.23, 1.00)	.84 (.67, 1.06)	E	NS	NS	
Engaged in sex in past 3 months[b]	.40 (.29, .56)	1.25 (.94, 1.67)	A	NS	NS	
Condom used at last sexual intercourse[b]	NA	NA		NS	NS	
Girls N=	891	1078		1540	1727	
Experienced pressure to play sex[a]		-.92 (-1.23, -.61) Significantly better for PPV	D		-.77 (-1.00, -.54) Significantly better for STD 6, PPV, and younger pupils	D
Sexual debut in past year[b]	.48 (.26, .92)	.89 (.47, 1.72)	A	.47 (.19, .99)	.57 (.24, 1.39)	A
Ever engaged in playing sex[b]	.57 (.43, .75)	.95 (.71, 1.25)	A	.66 (.52, .85)	.85 (.65, 1.10)	A
Engaged in sex in past 3 months[b]	.30 (.18, .48)	1.34 (.84, 2.15)	A	.54 (.29, 1.00)	.54 (.32, .92)	A
Condom used at last sexual intercourse[b]	NS	NS		NS	NS	

a. OLS Regression coefficients. b. Logistic Regression adjusted odds ratios.
N/A: No data available for one of the waves.
NS: There were no statistically significant differences across waves of data collection.
A: wave 1 to 3 change significant and in the desired direction plus wave 3 to 4 either no change or an additional change in the desired direction;
D: wave 3 to 4 change significant and in desired direction.
E: wave 1 to 3 change significant and in undesirable direction, no significant change wave 3 to 4.
PPV: pre-programme virgins

The 14-18 month (wave 1 to 3) evaluation using the full sample of 220 schools (160 Nyanza, 60 Rift Valley) demonstrated an increase in girls and boys reporting they had never engaged in sexual intercourse. The greatest gain appeared to be in those pupils who were not yet sexually experienced when the programme began. Pre-programme virgins in target schools were less likely to initiate sex during the programme than were pre-programme virgins in control schools, controlling for the level of sexual initiation during the same time period before PSABH began. These changes led to the conclusion that PSABH had influenced upper primary school pupils to postpone sexual initiation. An additional change was found for girls reporting condom use at last sex, with those in target schools increasing in such reports during the time PSABH was in their school compared to those in control schools.

For the subsample of schools that were part of this phase of research, the gains evidenced in the full sample from wave 1 to 3 with respect to sexual activity were evident only for girls. By

wave 3, more than twice[10] as many girls in target schools were remaining virgins during the period when PSABH was in the schools than would have been expected based on the number of girls of the same age who initiated sex during the same time period before PSABH was initiated[11]. This change held constant to wave 4, i.e. girls without sexual experience remained at least twice as likely to refrain from initiating sex during PSABH than was the case prior to PSABH. This change was reflected in the proportion of girls who reported they had never engaged in sex. Of additional interest is the statistically significant decline from wave 1 to 3 in Nyanza girls who reported they played sex in the past 3 months. The lower level evident in wave 3 was retained in wave 4. In Rift Valley this decline did not occur until wave 4 when fewer girls reported playing sex in the past 3 months than did so at wave 1.

While boys in these 40 schools did not replicate the pattern seen for girls for sexual initiation or ever playing sex, boys in Nyanza did replicate the pattern of Nyanza girls for sex in the past 3 months. Fewer boys in wave 3 reported sex in the past 3 months than did so in wave 1, with the wave 3 level retained at wave 4. This was not, however, the case for boys in Rift Valley.

The changes in condom use that began to appear for Nyanza girls in the full sample of 160 schools, were not evident in the smaller sample used in this phase.

METHODOLOGICAL NOTE: EFFECT OF ABSENCE OF CONTROL SCHOOLS

The differences between results for sexual behaviour in the 14-18 month evaluation report (see Appendix A) and those for wave 1-3 in this report are related to the role that control schools play in an evaluation. The gains for both girls and boys in the 14-18 month evaluation were relative to changes occurring in control schools. Fewer girls in both target and control schools initiated sexual activity during the time period that PSABH was in schools than did so during the same time period before PSABH began. The decrease was greater, however, for girls in target than in control schools. The portion of the change that was different in target as compared to control schools could be credited to the effect of PSABH. However, since this was only a portion of the change from wave 1 to wave 3, it appeared to be less of a change than is evidenced here, where there are no control schools.

The beneficial outcomes for boys reported in the 14-18 month evaluation resulted from a different target-control pattern. In control schools, a larger proportion of boys reported they initiated sexual activity during the time period that PSABH was in the target schools than did so during the same time period before PSABH began. In target schools, however, these two proportions remained nearly the same. Consequently, statistical analysis led to the conclusion that PSABH had prevented the increase that was evidenced in control schools. However, once control schools were eliminated, the only result that is evident is that there was no change in the proportion of boys in target schools who report initiating sexual activity either during PSABH or during the same time period before PSABH.

[10] The odds ratios of having initiated sex and remaining a virgin or refraining from initiating sex are the inverse of each other, i.e. odds ratios of .48 or .47 initiating sex is equivalent to odds ratios of 2.06 and 2.11 not initiating sex. The same holds for odds ratios for ever and never having engaged in sex.

[11] Uncertainty about the age of pupils may also have affected results since the sexual maturation of pupils was calculated using reports of age and age at first intercourse.

METHODOLOGICAL NOTE: CONTINUED

The results for condom use by girls were produced by a third pattern of events. In most of the 120 original target schools condom use remained constant, as it did in the subsample of 40 schools used here. However, in a small number of schools in the original sample, condom use increased. In control schools, there was either no change in condom use or a slight, non-significant, decrease in condom use. When target school results were analyzed relative to control schools, in the 14-18 month evaluation, this produced a statistically significant improvement in condom use in target relative to control schools. However, in the current analysis there are no control schools and the few schools where condom use increased are not part of the sample. Consequently, the results do not show a statistically significant change in condom use. For boys, on the other hand, there was little change in reported condom use in any of the schools participating either as control or as target schools in this research.

Although focus group discussions did not involve pupils reporting whether or not they were playing sex or had used condoms, some groups did discuss condom use in general. A number of pupils in Rift Valley stated that if you do play sex you should use a condom.

> *To protect yourself from AIDS, you can use a condom* (W4Rboys4: 371)
>
> *If someone uses a condom, she will protect herself from contracting AIDS* (W4Rgirls31: 464)

One group of girls mentioned that boys at their school carry condoms with them.

> * Q: Do pupils in this school use condoms?
> *Yes, some boys carry condoms and show us during prep time* (W4R girls1: 494-496)

One interviewer in Nyanza asked the pupils, 'if you have sex now, would you use a condom?'

> *You have to use a condom for you not to become pregnant. You have to use a condom to prevent Syphilis. You have to use a condom especially when you are in period. You should use a condom in order to prevent HIV/AIDS* (W4Ngirls33: 306-313).

Programme Maturation and Dose Response

Another way to examine how a programme is working over time and to test the validity of claims that it has the desired effect, is to test for programme maturation and dose response.

Programme Maturation

In programme maturation, the question that is asked is whether, as it is operating for a longer period of time, a programme has the same, weaker, or stronger effect on comparable cohorts of youth. This question was partially answered in the analyses already presented in this chapter. What was found was that at wave 4 the outcomes for pupils were generally the same or better than they were at wave 3. This supports the conclusion that the programme is still producing the same results that it did during its first 1-2 years in the schools. To more fully answer the question, all the analyses already presented were recalculated comparing standard 6 pupils in wave 3 to standard 6 pupils in wave 4. Both groups of pupils had only been exposed to the programme for one year, but in wave 3 this was during the first 1-2 years of programme delivery; whereas, by wave 4 the programme had been in schools for an additional year. This

comparison more rigorously examined whether the effect of the programme remained the same or changed over time.

Analyzing results for Nyanza and Rift Valley separately and on matters of sexual behaviour also separately for boys and girls, what was found was that results for wave 3 and wave 4 standard 6 pupils were generally the same or were better in wave 4. This suggests that, with only a few exceptions, the programme was continuing to have the same, or a better, effect on each new group of pupils. The areas in which the programme was having a stronger impact in wave 4 than wave 3 were:

- Knowledge – 2-3 times as many standard 6 pupils received passing grades at wave 4 than did so at wave 3.
- Condoms – Both on knowledge and attitude questions, standard 6 pupils at wave 4 scored 1.4-1.9 times higher than did standard 6 pupils at wave 3.
- Strategies for abstaining – Standard 6 pupils at wave 4 were twice as likely as those at wave 3 to report having recently refused to play sex and having avoided a place or situation in order to avoid playing sex.

In no instances were the results for standard 6 pupils at wave 4 poorer than they were for standard 6 pupils at wave 3.

Without a control group we cannot be certain that gains such as these may be attributed to the PSABH programme. It is possible that rising awareness of AIDS in the community, ongoing attention to AIDS in the media, and the move toward including examination questions related to AIDS on KCPE contributed to these changes. However, the changes are consistent with what pupils were saying in focus group discussions and what teachers were reporting in interviews, and they also follow the pattern that was already evident at wave 3 where a control group was used. This suggests that at least some of these changes are likely attributable to PSABH.

Dose Response

Dose response is based on the theory that the effect of a programme increases with increased participation or exposure (i.e. with an increased dose of the programme). There is usually a ceiling to this effect, i.e., there is a limit to the improvements a programme can make, especially in areas that are affected by factors outside that programme. However, until that ceiling is reached, it is expected that increased exposure will produce stronger or better results. Dose response was examined in two ways. First, results for pupils who were in standard 6 at wave 3 were compared to results for pupils in standard 7 at wave 4. These two groups should largely represent the same pupils. We did find that, in Nyanza, the number of standard 7 pupils completing surveys in wave 4 was larger than the number of standard 6 pupils completing surveys in wave 3 (154 more at wave 4 than wave 3). This higher number may include pupils who did not move from standard 7 to standard 8 and standard 7 pupils who enrolled in the school in 2004. It does raise the question of how well this comparison actually tests for dose response and consequently, the results must be interpreted with caution. What was found was that standard 7 pupils, i.e. those who had been exposed to the programme for 2 years, scored higher on most outcomes than pupils did at the end of standard 6 when they had been exposed to the programme for 1 year. This gain was even greater than could be accounted for by the programme maturation effect (i.e. that the programme was doing a better job the longer it was in the school). On knowledge, for example, between 2.5 and 5 times as many pupils received passing grades on the knowledge scale at the end of standard 7 than had a year earlier at the end of standard 6.

The second approach used to test dose response was to enter pupil reports of their degree of participation in and awareness of the PSABH programme in their schools into the regressions already reported in this chapter. This measure was entered into the analyses as a final step after controlling for age, standard, sexual experience, and wave of data collection.

Table P6: Adjusted OLS Regression Coefficients and Odds Ratios Regressing Outcomes of Interest on Level of Programme Implementation Controlling for Age, Standard, Pre-programme Sexual Experience, and Wave of Data Collection.

Outcomes	Nyanza		Rift	
N=	Boys 2026	Girls 2403	Boys 1479	Girls 1739
Overall Knowledge Scale[a]	-.02 (-.06, .03)	.01 (-.04, .06)	-.02 (-.07, .02)	.01 (-.03, .05)
Scored >50% on Knowledge Scale[b]	.95 (.90, 1.00)	**1.06 (1.00, 1.13)**	NS	NS
I can say no to playing sex[b]	NS	**1.09 (1.03, 1.16)**	**1.06 (1.01, 1.11)**	**1.09 (1.04, 1.14)**
A girl means 'no' when she says 'no'[b]	NS	**1.16 (1.09, 1.23)**	**1.06 (1.01, 1.10)**	**1.09 (1.04, 1.13)**
You should use a condom when playing sex[b]	1.04 (.98, 1.10)	**1.08 (1.01, 1.14)**	1.04 (.99, 1.09)	**1.04 (1.00, 1.08)**
Pursue Information about HIV/AIDS[a]	**.34 (.28, .41)**	**.28 (.22, .34)**	**.36 (.30, .42)**	**.34 (.29, .39)**
Talk to female relatives about H/A[a]	**.18 (.12, .24)**	**.28 (.19, .37)**	**.22 (.16, .29)**	**.28 (.21, .35)**
Talk to male relatives about H/A[a]	**.19 (.11, .27)**	**.22 (.15, .29)**	**.24 (.16, .31)**	**.25 (.20, .31)**
Talk to others in community about H/A[a]	**.08 (.03, .13)**	**.21 (.15, .27)**	.10 (.05, .15)	**.21 (.16, .25)**
Experienced pressure to play sex[a]	.07 (.02, .12)	.03 (-.02, .09)	.08 (.04, .12)	.04 (-.01, .08)
Remain virgin in past year[b]	1.01 (.92, 1.11)	**1.12 (1.00, 1.26)**	.93 (.83, 1.04)	.99 (.86, 1.15)
Never engaged in playing sex[b]	**1.06 (1.01, 1.12)**	.89 (.83, .95)	.94 (.90, .98)	**1.08 (1.02, 1.14)**
Engaged in sex in past 3 months[b]	1.05 (.98, 1.13)	**.83 (.74, .94)**	**.91 (.85, .98)**	.96 (.85, 1.08)
Condom used at last sexual intercourse[b]	1.01 (.93, 1.09)	.87 (.77, .98)	1.08 (.98, 1.17)	.88 (.76, 1.03)

a. OLS Regression coefficients. b. Logistic Regression adjusted odds ratios.
NS: There were no statistically significant differences across waves of data collection.
Bolded numbers are statistically significant with results in the desired direction.
Shaded cells are statistically significant with results opposite to the desired direction.

Pupil reports of their awareness of or participation in the HIV/AIDS activities influenced almost all outcomes for at least some pupils. Since age, standard, pre-programme sexual experience and the wave of data collection were held constant in these analyses, the dose response is isolated from these other potential influences on a pupils' KAB.

As is evident from Table P6, in most cases, higher levels of implementation of the HIV/AIDS programme in the school resulted in changes in the desired direction. Results bolded in black reflect such changes. These results clarify the situation of some 'undesirable' results based on the analysis of outcomes over time. Note that pursuing information, communication with others, and attitudes were most often significantly influenced by participation or exposure. The higher the level of participation or exposure, the more likely results were in the desired direction. This was also the case for boys and for Rift Valley girls reporting abstinence (never played sex) and

Nyanza girls and Rift Valley boys reporting sex in the past 3 months. In both instances, these results accentuate the effect already reported for changes over waves of data collection. Of note, however, is that the changes in sexual debut evidenced for girls were only related to the wave of data collection, not to the degree of awareness and participation in the programme. It must be noted, as well, that in two cases (results in shaded cells) higher participation or exposure is associated with changes that are opposite to those desired. This is the case for Nyanza girls and Rift Valley boys, fewer of whom report they have *never* played sex, where they have a higher level of participation.

Conclusion

Overall, the results presented in this chapter support the conclusion that the on-going presence of HIV/AIDS programming in schools is continuing to produce the desired effect. Given the large number of statistics calculated in this section of the report, the few results that are opposite to the desired direction could be random occurrences, although we cannot be certain of this.

Three emerging issues were evidenced in analysis of pupil responses:

- On-going difficulties establishing pupil age, affecting age-dependent measures.
- The on-going need for more detailed responses to questions than is allowed on surveys in order to understand the reasoning processes used by pupils and the conditionality of their behaviour
- Outsiders coming to schools to teach about condoms has had a significant impact on pupils knowledge and attitudes about condoms. This may be a way to deal with a topic about which teachers are uncomfortable and reluctant to teach..

CONCLUSIONS

The first questions that are asked about an intervention designed to change behaviours are:

> ***Is it effective? Does it produce the desired changes?***
>
> ***Is it efficacious? Can it be delivered and implemented under the normal day-to-day conditions without external support?***

These questions were addressed in the evaluation of PSABH that occurred between November 2001 and November 2003 and was reported in a series of documents that may be accessed on the PSABH website: www.psabh.info. Based on the evaluation results, we concluded that:

- ***PSABH works to produce the desired changes in youth at least as well, and in many ways better than, other HIV education programmes that have been tested in schools in sub Saharan Africa.[12]***
- ***PSABH can be delivered to large numbers of schools using a modified cascade model and trained Ministry of Education staff, monitoring and support systems. Schools are able to implement all aspects of the programme using school and community resources.***

As important as the question of whether PSABH has the desired results, are additional questions about its efficacy:

- ***Is it sustainable over time?***
- ***Will it continue to have a positive effect on youth?***
- ***Can it be delivered in schools in different regions that serve pupils from different ethnic groups?***

The first two questions were addressed in this report. The third will be addressed in future reports that will be based on data collected as PSABH is delivered in schools in different regions in Kenya.

Sustainability

Teachers and pupils alike reported on-going PSABH activities in their schools. Although 28-34% of the teachers who completed surveys did not themselves attend PSABH training, all teachers reported more HIV/AIDS education activities both in their classrooms and in activities around the school wave 4 than were reported in earlier waves of data collection.

Even in schools that had lost some of their trained teachers, there was evidence that teaching about HIV/AIDS and prevention strategies continued in classroom subjects and in diverse activities throughout the school. This suggests that the training provided within the school helped to sustain HIV/AIDS education in classroom and school activities, even when some of the PSABH trained teachers were no longer in the school. In the few schools that lost all of their trained teachers, however, there was evidence that it was more difficult to sustain the more active and diverse forms of HIV/AIDS education that were part of the PSABH programme.

[12] See Gallant, M. D., & Maticka-Tyndale, E. M. (2004). School-based HIV prevention programmes for African youth. *Social Science and Medicine,* 58: 1337-1351.

The activity that was most susceptible to loss when trained teachers were not available was the school health club. The question box also encountered some difficulties over time, with some schools continuing to use it and others not. Both of these activities (health club and question box) were also influenced by the presence of peer supporters in the school.

Sustaining a peer supporter programme appears to be particularly difficult as those trained by PSABH are promoted and eventually leave the school. This was most evident in the Nyanza schools where peer supporters were trained one school year before those in Rift Valley. Few Nyanza schools continued to have peer supporters. Pupils and teachers alike praised the work of the peer supporters, but schools had not, on their own, developed a mechanism for replacing the original peer supporters.

Based on these results, we conclude that:

> ***PSABH has been sustained in schools for 30 months following the initial training of teachers in Nyanza and for 26 months in Rift Valley.***
>
> ***As currently delivered, the peer supporter component of PSABH, however, is not sustainable beyond the tenure in primary school of pupils trained by PSABH.***

Continued Effect

Based on the data collected from pupils in Nyanza and Rift Valley schools it is evident that the majority of gains made by pupils who participated in the first 1-2 years of the PSABH programme continued to be made by pupils who participated in the second and third year of PSABH programming. There was also evidence that as the programme remained in schools longer it could improve on some of the original outcomes for pupils. This was particularly the case with respect to pupil knowledge overall (a higher proportion of pupils obtained passing grades on the knowledge portion of the survey in the most recent wave of data collection), and in particular pupil knowledge and attitudes related to condoms (areas which were particularly resistant to change during earlier phases of the programme). Results also support the conclusion that the more exposure pupils had to the programme, the greater the gains they made, i.e. there is a positive dose response.

Both the positive ***maturation effect*** (i.e., that the programme continues to have a positive impact) and ***dose response*** (i.e., that greater or longer exposure to the programme produces stronger results) support the conclusion that:

> ***PSABH continues to have a positive effect on pupils, and in some areas an improved outcome, up to 30 months in Nyanza and 26 months in Rift Valley schools.***

APPENDIX A: FINDINGS AFTER 18 MONTHS IN SCHOOLS – NYANZA PROVINCE

Primary School Action for Better Health - an HIV/AIDS behaviour change intervention that has proved effective in 2,000 Kenyan primary schools (pupils aged 11 – 17 yrs). Based on evaluation of 80 target compared to 80 control schools.

Pupil Behaviour and Attitudes

ODDS RATIOS[13]		
	Boys	**Girls**
Sexual debut past year	.62***	.60***
Ever played sex	.80**	.86**
Never forced	1.11	.87*
Avoided a place to avoid sex	1.35**	1.07
Condom used last sex	1.07	1.53**
Odds ratios controlling for pre-PSABH control/target differences, age & standard. * p≤.05 **p≤.01 ***p≤.001		

Statistically Significant Changes

From pre- to post-programme, target schools compared to control evidenced significantly:

1) Lower sexual initiation among boys and girls.
2) Fewer boys and girls reporting they ever played sex.
3) More girls reporting forced sex.
4) More boys reporting avoiding places in order to avoid playing
5) More girls reporting condom use at last sex

ODDS RATIOS		
	Boys	**Girls**
I definitely can/do:		
Say no to sex	1.07	1.30**
Have BF/GF & not play sex	1.20*	1.30**
Tell BF/GF wait 'til married	1.15*	1.25**
Believe 'no' means 'no'	.90	1.20**
Odds ratios controlling for pre-PSABH control/target differences, age and standard. * p≤.05 **p≤.01 ***p≤.001		

Statistically Significant Changes

From pre- to post-programme, target schools compared to control schools evidenced significantly:

1) More girls who felt they could say no to sex
2) More girls who believed that 'no' means 'no'

Post-programme target compared to control schools evidenced significantly:

3) More girls and boys who felt they could have a BF/GF and not play sex
4) More boys and girls who felt they could tell their BF/GF to wait until marriage to play sex

Qualitative Confirmation

Focus group discussions with pupils in target schools conducted post-programme indicated a dramatic shift in pupils' ability to describe concrete methods they now used to avoid or refuse sex. The language they used confirmed that they 'owned' these new behaviour patterns. This supported the observed statistically significant changes.

Pupil Knowledge

ODDS RATIOS (Target mean)/(Control mean)		
	Pupils	**Teachers**
Mean knowledge score	1.04	1.10
Odds ratios controlling for pre-PSABH control/target differences, age and standard. * p≤.05 **p≤.01 ***p≤.001		

Statistically Significant Changes

1) There were no significant differences over time or between target and control schools on either teacher or pupil knowledge.

[13] Odds ratios measure the size of changes in the target schools against those in control schools taking account of baseline difference between target and control. This isolates the net change in the target group. Odds ratios greater than 1 are the easiest to interpret since they reflect how much more likely an event is than its opposite. The odds ratios of an event and its opposite are the inverse of each other. For example, boys were 1.60 and girls 1.67 less likely to initiate sex during the programme in PSABH target than in control schools controlling for pre-programme levels of sexual debut (boys: 0.62^{-1}; girls: 0.60^{-1}). Similarly boys were 1.22 and girls 1.25 less likely to report ever engaging in sexual intercourse (boys: 0.80^{-1} girls: 0.86^{-1}).

Qualitative Contradiction

Contrary to quantitative findings for knowledge, focus group discussions with pupils in target schools revealed considerable accuracy and breadth of knowledge about HIV/AIDS post-programme. This is compared to pre-programme qualitative findings, which suggested inaccurate knowledge founded upon numerous myths and misinformation. Post-programme pupils in target schools were also able to dispel such myths and misinformation by using reasoning and critical thinking skills. There was ample evidence that pupils in target schools understood how best to stay safe from HIV.

Pupil Responses to the question: How do you stay safe?
"Abstain until marriage; before marriage get tested; wait 6 months and get tested again; if you are clean you do not need condoms; stay faithful to your husband/wife or use condoms."

Teachers' Abilities

At all waves of data collection teachers and community leaders presented abstinence as the only truly effective method of preventing transmission and acquisition of HIV. Over time teachers gradually incorporated specific teaching strategies to help pupils remain abstinent as well as increase their sense of personal control and efficacy when it came to sexual decision-making. By the final evaluation pupils and teachers alike were listing positive reasons for abstaining compared to baseline and the intermediate data collection exercise when the main reason for abstinence was to avoid AIDS and death.

Baseline and intermediate analyses suggested discouraging news about condoms as the content of messages delivered to youth was largely negative and at times inaccurate. Teachers struggled with the issue of condoms, not knowing how or if they should talk about them to pupils. Pupils recognized such discomfort on the part of adults but still looked to them for the truth about condoms. By the final evaluation, although teachers still did not publicly support teaching pupils about condoms, there appeared to be more open talk of condoms with youth. While discussions tended to focus on persuading youth against condom use there were more indications of attempts by teachers to acknowledge the preventive nature of condoms. Post-programme, pupils who were sexually experienced had more accurate knowledge about condoms and held more accepting attitudes about condoms than those who had never engaged in sexually activity. The difference was stronger in target than control schools.

School Response

Success Indicators of Basic Model

- Target schools have statistically significant higher levels of a comprehensive, sustainable HIV/AIDS programme integrated throughout school activities.
- Success of programme at large scale (2,000 schools) and resilience in context of teacher strike and introduction of FPE proves robustness of approach suitable for national dissemination.
- High rate of adoption of training in non-target schools by Ministry training teams indicates broad acceptance and self-perpetuating nature of the programme.
- Pupil responses confirm direct relationship between training of teachers and messages delivered and capacity of programme to adjust in response to pupil needs and teachers' concerns.

Considerations Based on Variations Tested

- High rate of teacher movement (22% schools lost trained teachers to transfer or death over 18 months)
- Additional teachers improves programme implementation levels.
- School visits by trained health workers assists with sensitive topics such as prevention of infection.
- Church leaders are important influences on teachers and pupils.
- Peer Supporters improve nature and level of communication on HIV risk reduction.

APPENDIX B: FINDINGS AFTER 30 MONTHS IN SCHOOLS – NYANZA PROVINCE

Primary School Action for Better Health - an HIV & AIDS behaviour change intervention that has proved effective in 2,000 Kenyan primary schools (pupils aged 11 – 17 yrs)

The summary below is based on 20 target schools in Nyanza Province that have continued to be followed beyond the 18 month evaluation period. Results here compare the pre-programme to 30 month post programme results only for these schools; there is no comparison with control sites. Because of the absence of control sites, these results must be considered as only supplementary to those reported at 18 months, which included control sites in the analysis.

Pupil Behaviour and Attitudes

ODDS RATIOS[14]		
	Boys	**Girls**
Sexual debut past year	.90	.53**
Ever played sex	1.19	.44***
Sex in past 3 months	.51***	.44***
Condom should be used	1.58***	1.74***
Condom used last sex	.91	1.48
Odds ratio of 30 months post compared to pre scores. * p≤.05 **p≤.01 ***p≤.001		

Statistically Significant Changes

From pre- to 30 months post-programme, target schools evidenced significantly:

1) Lower sexual initiation among girls.
2) Fewer girls reporting they ever played sex.
3) Fewer girls and boys reporting they played sex in the past 3 months.
4) More girls and boys reporting a condom should be used when engaging in sexual intercourse.

Effect of Loss of Control Schools

The stabilizing effect of PSABH on the sexual activity of boys in target schools compared to their activities in control schools was only evident when control schools were part of the analysis. Without control schools there appears to be no change in much of boys' sexual behaviours. This should be considered in light of the increases in the sexual activity of boys in control schools evidenced at wave 3.

ODDS RATIOS		
	Boys	**Girls**
I definitely can:		
Say no to sex	.99	1.07
Believe 'no' means 'no'	1.45***	1.49**
Odds ratios controlling for pre to post /target differences * p≤.05 **p≤.01 ***p≤.001		

Statistically Significant Changes

From pre- to post-programme, target schools evidenced significantly:

More girls and boys who believed that 'no' means 'no'

Qualitative Confirmation

In focus group discussions pupils demonstrated a continued shift in pupils' ability to describe concrete methods they now used to avoid or refuse sex. The language they used confirmed that they 'owned' these new behaviour patterns. This supported the observed statistically significant changes.

[14] Odds ratios measure the size of the changes among the pupil population in the target schools. An odds ratio of 1 represents no change from pre to post programme, a ratio above 1 represents an increase from pre to post programme and below 1 represents a decrease.

Pupil Knowledge

ODDS RATIOS		
	Wave 1-3	**Wave 1-4**
Passing grade on knowledge test	1.08	1.66***
Odds ratios controlling for pre-PSABH target differences, * p≤.05 **p≤.01 ***p≤.001		

Statistically Significant Change
Although there was no significant increase in the likelihood of pupils receiving a passing grade on the knowledge test from waves 1 to 3, there was from waves 1 to 4.

Qualitative Confirmation

Focus group discussions with pupils in target schools revealed considerable accuracy and breadth of knowledge about HIV/AIDS post-programme. This is compared to pre-programme qualitative findings, which suggested inaccurate knowledge founded upon numerous myths and misinformation. Post-programme pupils in target schools were also able to dispel myths and misinformation by using reasoning and critical thinking skills. There was ample evidence that pupils in target schools understood how best to stay safe from HIV.

Pupil Responses to the question: How do you stay safe?
"Abstain until marriage; before marriage get tested; wait 6 months and get tested again; if you are clean you do not need condoms; stay faithful to your husband/wife or use condoms."

Teachers' Abilities

At all waves of data collection teachers and community leaders presented abstinence as the only truly effective method of preventing transmission and acquisition of HIV. Over time teachers gradually incorporated specific teaching strategies to help pupils remain abstinent as well as increase their sense of personal control and efficacy when it came to sexual decision-making. Schools were also inviting outsiders, such as health workers, into the school to address the issue of condoms for prevention of HIV transmission. By 30 months after training,: (1) pupils and teachers were listing positive reasons for abstaining compared to baseline and the intermediate data collection exercise when the main reason for abstinence was to avoid AIDS and death, (2) pupils were discussing how condoms could prevent HIV transmission, and (3) although teachers still did not publicly support teaching pupils about condoms, there appeared to be more open talk of condoms with youth. While discussions tended to focus on persuading youth against condom use in favour of abstinence, there were more indications of attempts by teachers to acknowledge the preventive nature of condoms.

Programme Sustainability

ODDS RATIOS		
	Wave 1-3	**Wave 1-4**
Programme implementation	2.17***	2.48***
Pupil participation	1.32***	1.18***
School Health Club present	1.66***	1.35***
Question box present	4.72***	4.51***
Odds ratios controlling for pre to post target differences * p≤.05 **p≤.01 ***p≤.001		

Statistically Significant Changes
Compared to pre-programme:

Programme implementation was significantly higher at 18 and even more so at 30 months post-training.

Pupil participation was higher at 18 months, but dropped slightly to 30 months. This was a result of a reduction in question box and school health club in schools.

While school health club and question box were significantly more likely to be found in schools after PSABH training, there was some drop-off in these at 30 months compared to 18 months.

Qualitative Explanation

In focus groups with pupils and interviews with teachers, the fall-off in the question box was attributed to the loss of trained teachers and peer supporters in some schools. The fall-off in the school health club was attributed to activities being taken-up in other school clubs. Both of these accounted for the slight drop in the pupil participation scores.