

## ABSTRACT

This chapter reflects on the health of older children in the school setting as schools are a site that is frequented by about 11.5 million learners nationally per year. Several National Health Policies are outlined that guide the services provided to older children. The role of School Health Services in particular is outlined and the indicators related to its implementation strategy are described. The crucial need for the development of systematically planned and evaluated health promotion programmes that address the determinants of behaviours that place older children at risk is illustrated through the evaluation of the Department of Education's Life-skills programme focusing on HIV. While recommendations to improve this programme are made, the crucial conclusion regarding the health of older children in general is that there is an urgent need for the adoption of a planned and systematic approach to intervention development that aims at addressing the determinants of their health behaviours.

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## INTRODUCTION

South Africa (SA) may be characterised as a growing population. Just under half of the population (43%) is under-19-years of which 32% are of school-going age (5 to 19 years old).<sup>1</sup> The school setting itself provides for about 11.5 million learners nationally from grade 1 to grade 12.<sup>2</sup> KwaZulu-Natal province has the highest number of school-going children followed by the Eastern Cape – with about 2.6 and 2 million learners respectively. Nationally and provincially there are just under twice the number of primary school learners compared to secondary school learners. The findings of the October Household Survey of 1999 showed that the majority of older children 7-17 years, were perceived by the respondents to be in good or excellent health and in better health than younger children,<sup>3</sup> while other studies carried out amongst older school-going learners showed that learners engaged in behaviours that placed them at risk of contracting several preventable illnesses or diseases.<sup>4,5</sup> The first National Youth Risk Behaviour Survey (NYRBS) carried out in 2002, provides crucial data on eight behaviours that place young people at risk of developing various physical and mental aberrations, makes recommendations for the specific analyses of the determinants of the risk behaviours, and informs interpretation of the determinants and the systematic and effective development, implementation and evaluation of interventions.<sup>4</sup>

This chapter provides an overview of the policies that guide service delivery to older children (5-19 years old), some data about the health of school-going children and the behaviours that place them at risk, a report of an evaluation of a life-skills programme that focused on HIV prevention and recommendations that will help enhance service coordination and intervention development, implementation and monitoring.

## FRAMEWORK FOR MONITORING AND EVALUATION

### NATIONAL HEALTH POLICIES

In SA there are several international and national policies in place to guide and promote the health and well-being of children. Examples include the Convention on the Rights of the Child<sup>6</sup> and the

Framework Convention for Tobacco Control<sup>7</sup> at an international level and at a country level, the adoption of the National Programme of Action for Children (NPA)<sup>8</sup> reflects the framework provided by the Convention, the goals of the 1990 World Summit on Children and the Reconstruction and Development Programme.

The need to address specific priority areas like the prevalence of HIV resulted in the development of 'The HIV and STI Strategic Plan for South Africa 2000-2005'<sup>9</sup> in which youth and their sexual behaviour is highlighted as a priority for research and service delivery. The Policy Guidelines for Youth and Adolescent Health<sup>10</sup> incorporates a range of legal, policy and treaty obligations that impact on service delivery and the health of older children. In several policies the age groups and the needs emphasised do not necessarily relate to school-going children but overlap with either the older youth (20-24 years) or younger children (0-5 years) and place a specific focus on the needs of other youth; for example, youth out of school. There appears to be a general lack of policy, evaluated interventions and data collection about the health trends of school-going children. This chapter therefore aims to highlight the health needs of school-going children between 5 and 19 years.

The national Departments of Health and Education, have developed specific documents that provide guidelines to address the health of school going children from a health and education perspective respectively. The National School Health Policy and Implementation Guidelines – 2003<sup>11</sup> specifically address the health needs of school-going children. These include needs related to poverty and the environment such as nutrition, sexual activity, HIV and reproductive health issues, trauma and violence, and substance abuse. Physical needs like hearing, vision and speech impairment are achieved through regular health assessment for learners in grades R or 1, Health Promotion and Health Education for grades 2-12, referral and follow-up. School Health Services also responds to other issues like control and management of disease outbreaks, counselling, parasite control and provision of treatments for minor ailments as the need arises.<sup>11</sup>



The five-year plan of the Department of Education (DoE) entitled 'The Tirasano Programme' was launched to transform the education and training system in SA from one of segregation and disparity to one of equal opportunity for all South Africans.<sup>12</sup> This programme spans both the health and education needs of learners to include sexuality, gender, substance misuse and HIV prevention. The implementation of the programme is supported by the development of the concept 'Curriculum 2005': Lifelong Learning for the 21st Century.<sup>13</sup> The curriculum now has eight learning areas targeting various aspects of education like the development of new knowledge, skills and technologies. Life-orientation is one of the eight learning areas in the curriculum and is the designated learning area within which health related issues pertaining to sexuality and substance use for example, are taught.

### SCHOOL HEALTH SERVICES

The health of school-going children is overseen primarily by the Department of Health (DoH) in collaboration with the Department of Education (DoE). The 2003 School Health Policy and Implementation Guidelines developed by the DoH, delineates the vision, principles and objectives, target population and package of services as well as guidelines for implementation, monitoring and evaluation.<sup>11</sup> The rationale for the development and provision of an effective school health service is that it provides a safety net for children who have had limited access to the health system between birth and starting school. This is achieved through the health assessments that are carried out on children in grades R or grade 1. The health assessments focus on the early detection of problems and the appropriate referral thereof, pertaining to gross motor, vision, hearing, oral and anthropometric testing. For grades 2-12, the provision of health promotion and health education are viewed as crucial activities that need to be incorporated into the school curriculum on an on-going basis throughout the school years. Such education needs to focus on life-skills, child abuse and high risk behaviours such as substance abuse and violence amongst others, and needs to be carried out in an environment that supports healthy practices through the development of Health Promoting Schools.

The implementation of the guidelines is devolved to the provinces to tailor the delivery of the school health service according to their needs. This is monitored by a set of indicators at district, regional, provincial and national levels. As School Health Services are in the process of being phased back into the education system, the indicators developed are primarily to track the implementation process in terms of service delivery; for example the percentage of schools receiving the service.<sup>11</sup> A review of the list of indicators (Table 1) suggests that the challenge for School Health Services lies in developing an evaluation plan to assess the implementation of the National School Health Policy and Guidelines, the impact of the service and to obtain evidence about its level of effectiveness.

TABLE 1:  
Proposed Indicators for Implementation of School Health Services

Indicator	Purpose of Indicator
<b>National Level</b>	
Number of provinces with 100% of districts with a fully functioning school health service	Will assist national level to support provinces struggling to implement the service
<b>At Provincial Level</b>	
% of districts with fully functioning school health service	Provincial indicators can assist provinces to identify the districts in need of most support and resources
% of districts with school health staff: population ratio as per the required norm	
% of districts with functioning coordinating forums	
Presence of provincial person dedicated to managing the school health service	Ensuring management structures are in place
% of districts with person dedicated to managing the school health service	
<b>At District Level</b>	
Allocation of person responsible for managing school health service	Will give districts an invitation of the management structure
Presence of a coordinating forum for the school health service	
Coverage of the school health services in each district (% of schools reached by the health service)	Useful for planning the coverage and expansion of the school health service
% of schools receiving the complete set of school health activities	Gives an indication of which schools receive all the proposed school health activities. Further analysis as to which activities are not delivered and reasons for this would help districts to improve the full coverage and quality of the service
% of learners who had Grade R/I assessments	
School health staff: population ratio	Will assist planning and allocation of required staff resources
% of referrals of learners with health problems	Would assist districts in monitoring how well the referral, treatment and follow-up systems work
% of learners with identified health problems successfully treated	
% of learners with health problems who have been followed up at least once	
% of school with fully-equipped first aid kit	
% of school with at least one staff member trained in first aid	
<b>Impact Evaluation</b>	Indicators must be developed to measure the impact of this service.
The ultimate impact of the school health service needs further consideration.	

Source: DoH, 2003.<sup>11</sup>



At district level, the quarterly report is an example of the data that are captured on the above indicators. The information in the report reflects the demographic information about the schools, the number of schools that received services for the quarter, general information for example, the number of Health Promoting Schools launched and functioning and the health assessments done in terms of total number of learners assessed, the defects detected and the total number of learners referred for further assessment and treatment. The health assessment includes a full examination and specifically screens for gross motor, vision, hearing, speech, anthropometric measures, immunisation, oral health, child abuse and neglect, mental health and other minor ailments like scabies and skin infections. The data collected at district level reflect the extent of the ailments suffered by early school-going children and the line of action taken that is either treated or referred.

The challenge that lies ahead for School Health Services is to effectively address the development, implementation, monitoring and evaluation of programmes that target the factors that have been identified to impact on the health of school-aged children. These include:

- ◆ Poverty and environment;
- ◆ Nutritional status;
- ◆ Sexual activity, HIV and reproductive health;
- ◆ Trauma, violence and mental health;
- ◆ Substance abuse and risk taking;
- ◆ Hearing, vision and speech impairment; and
- ◆ Trauma and violence.

Further to this, a range of indicators for each of these factors need to be identified that will serve to monitor the impact of the programmes. A recommendation for a surveillance system, for example the periodic administration of the NYRBS, will serve to track changes and trends in the targeted behavioural practices of older children.

## YOUTH RISK BEHAVIOUR

The first NYRBS investigated eight risk behaviours that older school children engage in.<sup>4</sup> Some of the behaviours investigated, for example unsafe sexual behaviour, tobacco use, inadequate nutrition and physical activity, showed that substantial numbers of young people are at risk of developing HIV-related diseases, lung cancer, obesity and cardiovascular disease later on. As these diseases are preventable, a systematically planned health promotion strategy to effectively curb the prevalence of such behaviours is needed. Such a strategy needs to be based on an effective planning and evaluation model that systematically addresses the questions to be asked and evaluated to ensure that the appropriate strategy is used to address the specific determinants of the risk behaviour. In applying the planning and evaluation model, specific questions need to be addressed.<sup>14</sup>

### Box 1:

#### Questions for Planning and Evaluation

##### The questions related to the planning are:

- Step 1: How serious is the health, social or developmental problem?
- Step 2: Which health related and social behaviours are involved?
- Step 3: What are the determinants of those behaviours?
- Step 4: Which interventions may change the behaviour?
- Step 5: How can the intervention be implemented?

##### The evaluation questions are:

- Step 6: Has the implementation been carried out as expected?
- Step 7: Has the intervention been received as planned?
- Step 8: Have the determinants of the behaviour changed?
- Step 9: Has the behaviour changed?
- Step 10: Has the problem been reduced?

Source: Reddy et al., 1995.<sup>14</sup>

FIGURE 1:  
A model for planning and evaluation of interventions



Source: James et al., 2006.<sup>15</sup>

To illustrate the importance of systematically planned and evaluated interventions the results of an evaluation by James et al.<sup>15</sup> carried out on the Life-skills HIV programme (LHAP) in secondary schools is outlined below. The LHAP was the collaborative effort of the Departments of Health, Social Development and Education to address the prevalence of HIV amongst young people.<sup>16</sup>

## EVALUATION OF THE LIFE-SKILLS HIV PROGRAMME

### DESCRIPTION OF THE PROGRAMME

The aim of the LHAP was to bridge the gap between the high levels of awareness reported by adolescents and their unsafe sexual practices. Schools were already committed to reform and were implementing the 'Curriculum 2005' syllabus, based on outcomes based education with a designated learning area for decision making, critical and creative thinking, effective communication, development of healthy relationships, and a positive self-concept. These were seen as broad themes within which core skills (empathy, self-awareness and problem-solving, coping with stress and emotions, and interpersonal relationships) are developed and presented in a culturally sensitive manner.<sup>13</sup> The LHAP intervention is a 16-hour curriculum that has 11 key learner objectives.<sup>17</sup>

## METHODS

Intervention Learner Objectives are to:

- ◆ Demonstrate a clear and accurate understanding of sex, sexuality, gender, and STIs;
- ◆ Identify ways in which HIV and STIs can and cannot be transmitted;
- ◆ Identify and evaluate the effectiveness of HIV and STI prevention methods;
- ◆ Identify, access and mobilise sources of assistance within a community;
- ◆ Critically evaluate reasons for delaying sexual intercourse or practising abstinence;
- ◆ Respond assertively to pressures for sexual intercourse and unprotected sex;
- ◆ Critically evaluate reasons and methods for having protected sex if sexually active;
- ◆ Accept, cope and live positively with the knowledge of being HIV-positive;
- ◆ Show compassion and solidarity towards persons living with HIV and those affected;
- ◆ Be able to provide basic care for persons living with HIV in the family and community; and
- ◆ Understand and cope with the grieving process.

The lessons were to be taught at least once a week over two schools terms. The content covered a range of topics that included facts about HIV and the use of life skills focusing on HIV risks; for example, assertiveness and decision making to guide behavioural choices. These sessions were intended to be implemented in classrooms by teachers using didactic and interactive teaching, group work and role-play methods.



## PROGRAMME EVALUATION FINDINGS

James et al.<sup>15</sup> evaluated programme outcomes and process amongst 22 schools (totalling 1 141 grade 9 learners with a mean age of 15.6 years) in KwaZulu-Natal province. The schools were randomised into treatment (those implementing the programme) and control (those not implementing the programme). The following outcomes were measured by a self-report questionnaire:

- ◆ Knowledge about HIV;
- ◆ Attitudes towards condom use (perceived positive and negative consequences);
- ◆ Attitudes toward people living with HIV;
- ◆ Perceived social support;
- ◆ Confidence to assert oneself;
- ◆ Perception of sexual behaviour;
- ◆ Communication about HIV and safer sex; and
- ◆ Reported sexual behaviour and intended condom use behaviour.

Measures were taken at baseline, six months after baseline immediately following the implementation, and four months after the completion of the programme. The results of the multi-level analysis carried out on the intervention and control groups showed that except for knowledge there were no significant differences between pre- and post-intervention scores.

The process evaluation of teacher implementation of the programme sought to ascertain what teachers recalled teaching, how often they taught the lessons and the methodology they used. Teachers indicated using mostly didactic teaching methods. Schools did not implement the programme uniformly or with fidelity to a programme design intended to build skills. Schools could be differentiated by frequency of lessons, topics covered and methods used. Dose of implementation was indicated by number of topics (learner objectives) taught. Seven schools were designated as fully implementing the programme because they reported working on all 11 learner objectives whilst 4 schools partially implemented the programme (taught 7 or fewer learner objectives). The teachers taught the sections of the curriculum that covered information about HIV and less about the life skills components of the course and caring for people living with HIV. All schools used

formal lessons, group work or a combination of both as a means of delivery.<sup>18</sup>

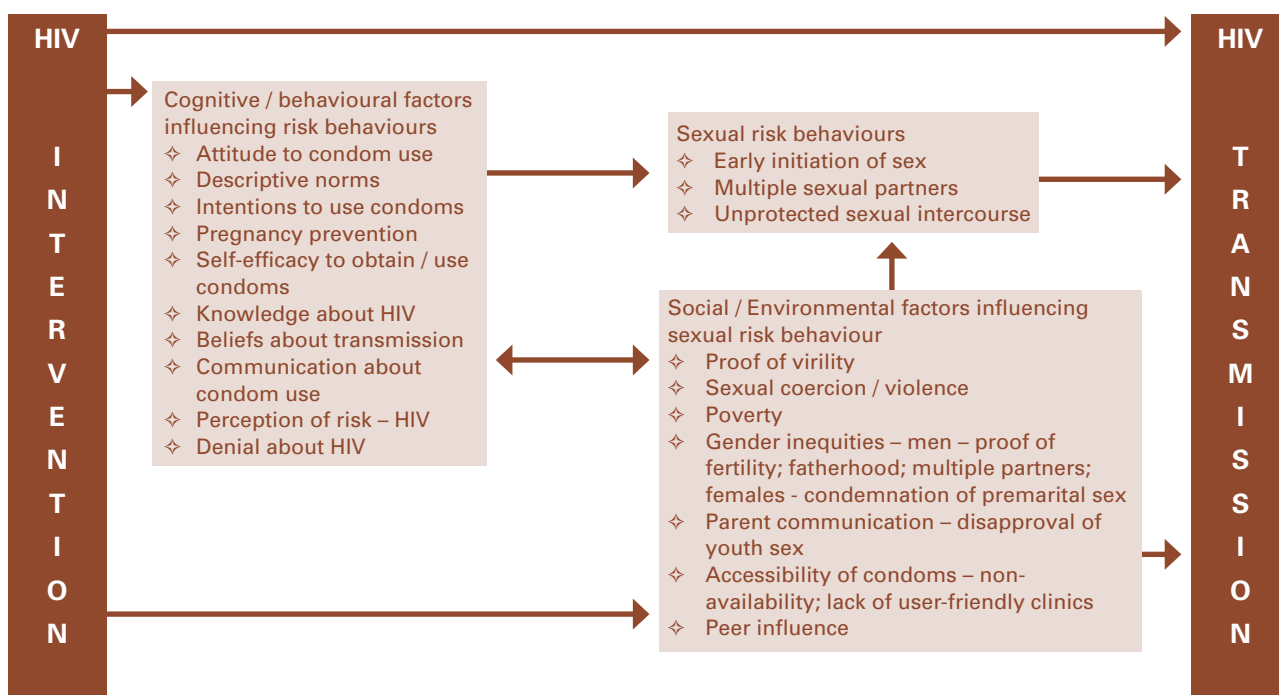
Further analysis carried out on the differentiated study groups (full implementation, partial implementation and control groups), showed that under conditions of full implementation, the programme was associated with increases in knowledge about HIV, more positive perceptions of sexual behaviour, a decrease in reported sexual activity in the preceding six months and an increase in condom use at last sexual encounter in the short term i.e. immediately after the intervention was implemented. In the longer term – four months after the intervention was implemented – learners were able to maintain the significant effects found on the variables immediately after the intervention was implemented as well as experience a higher level of perceived social support.<sup>17</sup>

SUGGESTIONS FOR IMPROVING THE LIFE-SKILLS  
HIV PROGRAMME

In an effort to make substantial recommendations for programme improvement, a review of South African literature related to sexual behaviour, curriculum material and the evaluation reports by James et al., Magnani et al. and Visser et al.<sup>15,17,19</sup> were carried out. From the literature, a model of risk behaviour (figure 2) as well as a logic model (figure 3) depicting the intended programme inputs, outputs, potential determinants of behaviour or mediating variables and outcomes of the programme were developed.<sup>20</sup>

The risk model provides an example of a detailed needs assessment and the areas that may be targeted to effect changes in the cognitive and / or environmental determinants of sexual behaviour.

FIGURE 2:  
Modified Precede<sup>a</sup> Risk Model

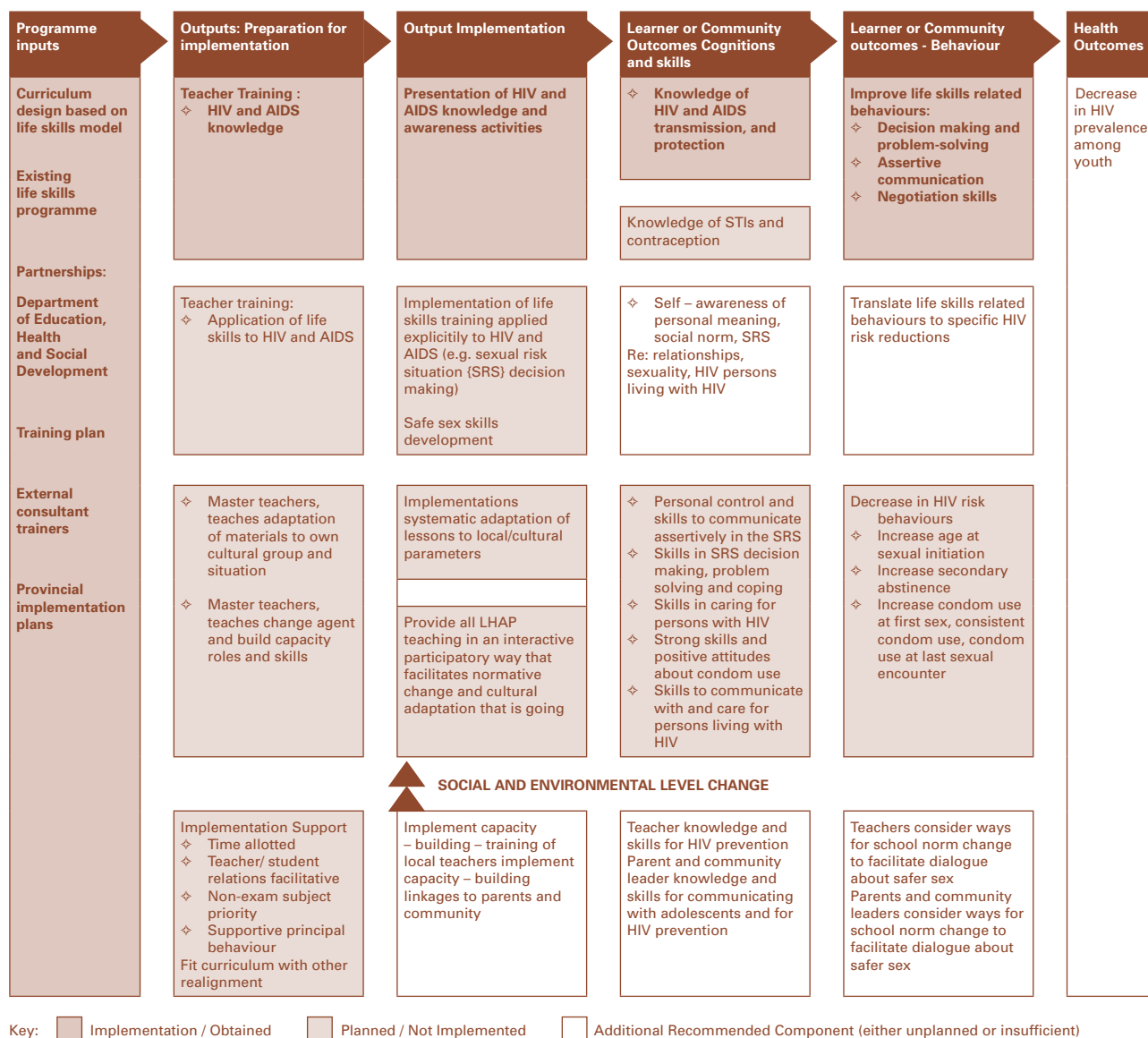


Source: James et al., 2006.<sup>20</sup>

a Procedure stands for: Predisposing, Reinforcing and Enabling Constructs in Educational/Environmental Diagnosis and Evaluation



FIGURE 3:  
Life Skills Programme Logic Model



Source: James et al., 2006.<sup>20</sup>

Beginning on the left side of the model are the components that contributed to the design and implementation of the Programme. Moving to the right across the columns, all programme components and outcomes have been coded as either implemented/obtained, planned but not implemented, or a component that was not included in the original programme plan but that might be needed to better address the factors depicted in the risk model in Figure 2. The first two categories are from the review of the three evaluation studies of the Programme while the third one depicts elements that do not seem to be present,

but would be necessary to fully address factors in the risk model. The programme was analysed as it was described in the reports and depicted characteristics of the programme reading from the left column of the figure as the following:

- ◆ Inputs such as partnerships for the design and implementation of the LHAP.
- ◆ Outputs including: (1) processes to prepare for implementation such as teacher training and (2) those processes involved in implementation such as instruction provided by teachers.

- ◆ Outcomes including: (1) learner and community cognitive and skill changes such as decision making and condom use knowledge and skills, (2) learner and community behavioural changes such as application of decision making to sexual risk situations, and (3) health such as decreases in HIV risk exposure.
- ◆ The outcomes may also be re-written as indicators of behaviour that tests the efficacy of the programme over a period of time. To monitor the effectiveness of programmes addressing sexual behaviour indicators like the percentage of learners that used condoms at last sexual encounter or at first sex may be developed and tracked.

The gaps depicted in this picture of the programme projected the foundation for the recommendations to improve the programme; for example, the development of teacher skill to enhance HIV risk reduction in learners.<sup>21</sup>

## SUMMARY

The risk model depicts several social, environmental, cognitive and behavioural factors that contribute to the three very specific behaviours (early initiation of sex, unprotected sexual intercourse and multiple sexual partners) that lead to HIV transmission. The logic model depicts the extent to which implementation to address student HIV risk behaviours have been met following a review of three evaluations undertaken on the South African school-based Life-skills HIV Programme. The areas that showed the least implementation guided the focus for revision. These areas pertained to the actual delivery and content of the programme. The delivery was ineffective at two levels: Firstly, teachers felt inadequately prepared to translate the life-skills behaviours to HIV risk reduction situations and secondly, school management (principals) felt pressured to concede to the competing needs of the curriculum resulting in teachers not fully implementing the programme. These barriers to implementation are not uncommon and have been found to hinder teacher implementation. The barriers identified related to a lack of time, resources and content delivery requiring more innovative teaching methodology.<sup>21</sup> Further delivery of a skill based HIV risk reduction programme may be

new to many schools and requires on-going monitoring and evaluation.

## CONCLUSIONS AND RECOMMENDATIONS

The health of older children is impacted upon by a host of determinants some of which were outlined above. The quality of intervention development, implementation and evaluation, health promotion as well as health education efforts designed to address these determinants will impact on the eventual health outcomes of older children. The evaluations outlined above confirm that the degree of change in expected outcomes was associated with the quality and content of the programme. Programme developers therefore need to ensure that programmes are underpinned by sound theoretical and empirical data and address the determinants of the behaviour in a targeted and specific manner. Specific measures to ensure that actual implementation of the programmes does take place, together with provision of the necessary skills and support structures like adequate materials, teaching time and principal support needs to be available to those implementing the programme.



## REFERENCES

- 1 Statistics South Africa. Census 2001. Pretoria: Statistics South Africa; 2003.  
URL: <http://www.statssa.gov.za/>
- 2 Department of Education. Education Statistics in South Africa at a Glance in 2003. Pretoria: Department of Education; 2005.  
URL: <http://www.education.gov.za/EMIS/emisweb/03stats/2003%20Stat%20at%20a%20Glance.pdf>
- 3 Statistics South Africa. October Household Survey. Pretoria: Statistics South Africa; 1999.  
URL: <http://www.statssa.gov.za/publications/statsdownload.asp?PPN=P0317&SCH=854>
- 4 Reddy SP, Panday S, Swart D, Jinabhai CC, Amosun SL, James S, et al. Umthenthe Uhlaba Usamila – The 1st South African Youth Risk Behaviour Survey 2002. Cape Town: Medical Research Council; 2003.  
URL: <http://www.mrc.ac.za/healthpromotion/reports.htm>
- 5 Swart D, Reddy SP, Panday S, Phillip JL, Naidoo N, Ngobeni N. The 2002 Global Youth Tobacco Survey (GYTS): The 2nd GYTS in South Africa (SA) – A comparison between GYTS (SA) 1999 and (GYTS) (SA) 2002. Cape Town: Medical Research Council; 2004.  
URL: <http://www.mrc.ac.za/healthpromotion/GYTS2002part1.pdf>  
URL: <http://www.mrc.ac.za/healthpromotion/GYTS2002part2.pdf>
- 6 United Nations Children's Fund. Convention on the Rights of the Child. 2003.  
URL: <http://www.ohchr.org/english/law/pdf/crc.pdf>
- 7 World Health Organization. WHO Framework Convention on Tobacco Control. Fifty-Sixth World Health Assembly. 2003.  
URL: [http://www.who.int/gb/ebwha/pdf\\_files/WHA56/ea568r1.pdf](http://www.who.int/gb/ebwha/pdf_files/WHA56/ea568r1.pdf)
- 8 National Programme of Action Steering Committee. National Programme of Action for Children in South Africa: Framework. Pretoria, South Africa; 31 May 1996.  
URL: <http://www.info.gov.za/otherdocs/1996/chilprog.htm>
- 9 Department of Health. HIV/AIDS/STD strategic plan for South Africa 2000-2005. Pretoria: Department of Health; 2000.  
URL: <http://www.doh.gov.za/docs/index.html>
- 10 Department of Health. Policy Guidelines for Youth and Adolescent Health. Pretoria: Department of Health; 2001.  
URL: <http://www.doh.gov.za/docs/policy/yah/index.html>
- 11 Department of Health. School Health Policy and Implementation Guidelines 2003. Pretoria: Department of Health; 2003.
- 12 Department of Education. Implementation plan for Tirisano 2001-2002. Pretoria: Department of Education; 2001.
- 13 National Department of Education. Curriculum 2005, Lifelong learning for the 21st century. South Africa: Absolutely Media Marketing; 1997.
- 14 Reddy P, Kok G, Van Den Borne B, Yach D. Unravelling Health Promotion: in Pursuit of more Successful Interventions. *Chasa J Comprehensive Health* 1995;6(3):110-4.
- 15 James S, Reddy SP, Ruiter RAC, Van den Borne B. The Impact of a HIV and AIDS Lifeskills Programme on Secondary School Students in KwaZulu-Natal, South Africa. 2006. In Press.
- 16 Department of Education and Culture, KwaZulu-Natal. Integrated Plan For Children Affected And Infected With HIV and AIDS. Business Plan For Lifeskills & HIV and AIDS Education: Secondary Schools Phase 1 April 2000 - March 2001: 2001.
- 17 Magnani R, MacIntyre K, Karim AM, Brown L, Hutchinson P. The impact of life skills education on adolescent sexual risk behaviours in KwaZulu-Natal, South Africa. *Journal of Adolescent Health* 2005;36:289-304.
- 18 Reddy P, James S, McCauley A. Programming for HIV Prevention in South African Schools: A Report on Programme Implementation. Cape Town: Medical Research Council; 2005.  
URL: [www.popcouncil.org/pdfs/horizons/saschlfnl.pdf](http://www.popcouncil.org/pdfs/horizons/saschlfnl.pdf)
- 19 Visser MJ, Schoeman JB, Perold JJ. Evaluation of HIV/AIDS Prevention in South African Schools. *Journal of Health Psychology* 2004;9(2),263-80.
- 20 James S, Bartholomew LK, Van den Borne B, Taylor M, Reddy SP. The South African HIV/AIDS risk reduction programme for secondary school learners: Refocusing the effort. PhD Dissertation. The Evaluation of HIV and AIDS Interventions in Secondary Schools in South Africa: recommendations for systematic programme development. 2006.
- 21 Kealey K, Peterson AV, Gaul MA, Dinh KT. Teacher Training as a Behaviour Change Process: Principles and Results from a Longitudinal Study. *Health Education & Behaviour* 2000;27(1):64-81.

