

**TEENAGE PREGNANCY IN SOUTH AFRICA -
WITH A SPECIFIC FOCUS ON
SCHOOL - GOING LEARNERS**



basic education

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**Teenage pregnancy in South Africa -
with a specific focus on school-going learners**



FOREWORD BY MINISTER: BASIC EDUCATION

South Africa has made significant progress since 1994 towards achieving gender parity in basic education. In fact, we have gone beyond achieving gender parity, to the extent that girls now make up the majority of enrolments in secondary schools. However, pregnancy is amongst the major concerns that pose a serious threat to gains achieved in public schools thus far. Teenage pregnancy undermines the Department's efforts to ensure that girl children remain in school, in order to contribute towards a quality life for all, free of poverty.

The Department of Basic Education has taken an active role in seeking to understand and effectively address this challenge, as it impacts significantly on learners. In 2008, the Department commissioned a desktop study to document, review and critically analyze literature on teenage pregnancy with a focus on school-going adolescents. The study analyzes both the prevalence of teenage pregnancy and its determinants. It is my privilege to present the report of this study 'Teenage Pregnancy in South Africa, with a Specific Focus on School-Going Learners'.

Findings from this study are that teenage fertility in South Africa has been declining over time. Declines in overall fertility rates have been attributed to, amongst others, increased access to information on reproductive health and rights and improved contraceptive use. The study has further identified that learner pregnancies are more concentrated in the provinces of Eastern Cape, Limpopo and KwaZulu Natal; thereby necessitating targeted interventions in these areas. In addition, the study states that learner pregnancies are higher in schools located in poorer neighbourhoods.

Despite the reported decline in teenage fertility rates, the high proportion of unintended pregnancies for teenagers in South Africa remains a serious problem. Pregnant teenagers face serious health, socio-economic and educational challenges. One teenage learner pregnant is one too many, and the Department therefore does not take comfort in the reported decline of teenage fertility, but seeks to strengthen efforts towards addressing this challenge. To this end, the Department will develop a comprehensive strategy towards addressing learner pregnancy in South Africa, outlining definitive interventions for implementation through the schooling system. The report also notes that remaining in the education system is a strong factor in preventing teenagers from falling pregnant, and we must therefore continue to work to keep young women in school.

However, we are mindful of the fact that addressing teenage pregnancy is not a challenge facing only one department. Addressing teenage pregnancy is a battle that requires the active involvement of all stakeholders, if it is to be well fought. These stakeholders include other government departments, key organisations in the non-governmental sector; the research community, the religious sector, community leaders and more importantly, parents and the learners themselves. It is for this reason that we invite all stakeholders to study the report, and draw from it that which can assist them to respond better to the challenges in their respective sectors.

Thank you to the HSRC researchers who worked on this report. I also offer my sincere thanks to our partner UNICEF, who provided the funding that made the study possible.

A handwritten signature in black ink, appearing to read 'Motshekga'.

Mrs AM Motshekga
Minister of Basic Education
August 2009

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Executive Summary

The transition to parenthood is a major event in the lifespan of any individual, but takes on special significance when it precedes the transition to education, work, citizenship and marriage that offer the skills, resources and social stock necessary to succeed as parents. Although alternative pathways to parenthood occur and are tolerated to some extent, institutional support for parenthood is still geared towards a traditional sequencing of transitions.

HIV/AIDS is now recognised as the primary reproductive health concern for adolescents, overtaking the long-standing emphasis on adolescent fertility. Yet childbearing among teenagers remains a common social and public health concern worldwide, affecting nearly every society. Teenage fertility, establishes the pace and level of fertility over a woman's entire reproductive life span. This has an impact not only on women's health, but on the socio-economic status and general wellbeing of the population. Despite public health literature and family planning services treating HIV and pregnancy as distinct, they share many common antecedents chief amongst which is unprotected sex. What is more, there is evidence that pregnancy and lactation increase the susceptibility to HIV infection through immunological changes induced during pregnancy.

Even though teenage fertility has been the subject of substantial debate in the social science research and policy circles, concern has not emanated from the increased risk that pregnancy confers to HIV. While current political and media depictions imply that SA is confronted with an escalating epidemic of teenage pregnancies, available data suggests that it is an area in which substantial progress has been made since democracy. Yet teenage pregnancy has grown in significance as a social construct and come to represent one of several indicators of burgeoning adolescent delinquency, sexual permissiveness and moral decay.

Education is central to the development of young people as it prepares them for the world of work and for life. As young people spend longer periods in education, as part of the natural course of development, sexual experimentation and maturity is increasingly coinciding with secondary schooling. For most, it remains at the level of experimentation and if sex occurs, indications are that it is more likely to be protected when young people are still at school. However, for a minority, it results in unwanted pregnancy, HIV and other sexually transmitted infections. This has implications for continued educational opportunities.

In a rights-based society, young girls who fall pregnant should not be denied access to education and this is entrenched in law in SA through the Constitution and Schools Act of 1996. In 2007, the Department of Education released *Measures for the Prevention and Management of Learner Pregnancy*. Not without controversy, the guidelines continue to advocate for the right of pregnant girls to remain in school, but suggests up to a two year waiting period before girls can return to school in the interest of the rights of the child. Any proposed shift in policy and practice needs to be informed by a well-rounded understanding of the context of teenage pregnancy.

Purpose

The purpose of the study was to document, review and critically analyse literature on teenage pregnancy with a focus on school-going adolescents. The specific objectives were as follows:

- To review existing literature and conduct statistical analyses to establish the prevalence and determinants of teenage pregnancy;
- To assess the individual, familial and educative impact of teenage pregnancy;
- To identify and assess the impact of interventions for teenage pregnancy; and
- To propose a conceptual framework for research and interventions to prevent and mitigate the impact of teen pregnancy.

Methods

The study involved a desktop review of literature supported by secondary data analysis to provide an overview of research on the prevalence, determinants and interventions for teenage pregnancy.

Although the study focused on pregnancy, the detailed trends presented in the report are on fertility. Understanding the distinction between pregnancy and fertility is essential. Fertility rates refer only to pregnancies that have resulted in live births while pregnancy rates include both live births and pregnancies that have been terminated. Before the introduction of the termination of pregnancy legislation, fertility closely approximated pregnancy rates. Since the legalisation of abortion, however, this can no longer be assumed to be the case. Trends in pregnancy rates in SA cannot be accurately estimated for two reasons. First, it is not known whether pregnancies that were terminated early on are well captured in survey data and school record systems. Second, a comprehensive national register of abortion is not maintained in the country.

SA lacks vital statistics on fertility, pregnancy and abortion. Nevertheless, fertility rates could be reliably estimated from Census data and the Demographic and Health Surveys. For the purposes of this study, trends in teenage fertility were investigated in three stages: (1) mapping the overall trends in fertility in SA; (2) documenting trends in teenage fertility relative to overall fertility; and (3) analysing learner pregnancies reported through the Education Management Information System (EMIS).

The literature review focused on studies dated between 2000 and 2008 but included seminal works prior to 2000. In view of the high rates of HIV infection among young people in SA, sexual behaviour of adolescents has received much national scholarly interest. The literature review was able to draw on four national studies conducted to understand youth sexual behaviour.

Secondary analysis was also conducted on the HSRC 2003 Status of Youth Survey, a nationally representative study of more than 3 500 young people aged between 18 and 35 years. The purpose of the secondary data analysis was to identify factors that are associated with early pregnancy. This included family structure, type of childhood residence, childhood poverty and school dropout.

Main Findings

Fertility

The overall decline in fertility in South Africa has run a long course of almost 50 years but at differential rates for the population groups. To date, SA has the lowest fertility rate in mainland sub-Saharan Africa. While over time teenage fertility has been declining, this has been at a slower pace than overall fertility. The slower decline in teenage fertility may be attributed to interruptions in fertility associated with national epochs. For example, the interruption of schooling during the struggle years was associated with a rise in teenage fertility. Similarly, the spike in fertility in the mid nineties is associated with political changes during that period when there were concerns for the large cohort of young people who had become marginalised from mainstream systems of education, work, healthcare and family life. However, it must be noted, that teenage fertility has declined by 10% between 1996 (78 per 1000) and 2001 (65 per 1000). A further decline in teenage fertility (54 per 1000) was reported in the 2007 Community Survey.

Older adolescents aged 17-19 account for the bulk of teenage fertility in SA. While rates are significantly higher among Black (71 per 1000) and Coloured (60 per 1000) adolescents, fertility among White (14 per 1000) and Indian (22 per 1000) adolescents approximates that of developed countries. This difference can in all likelihood be accounted for by the wide variation in the social conditions under which young people grow up, related to disruptions of family structure, inequitable access to education and health services, as well as the concentration of poverty and unemployment in Black and Coloured communities. However, international research shows that even when the above factors are controlled for, differences between populations groups persist, indicative of cultural differences with regards to pregnancy.

Analysis of the EMIS data on teenage pregnancy shows an increase in learner pregnancies between 2004 and 2008. However, this trend is contrary to national trends in fertility and is more likely the result of improved reporting, rather than a real increase in fertility. Analysis of provincial trends shows a concentration of learner pregnancies in the Eastern Cape, Kwazulu-Natal and Limpopo. Despite the incompleteness of the EMIS data, it does provide some indications of the types of schools in which learner pregnancies are concentrating. Learner pregnancies are higher in schools that are poorly resourced (lower in specialised schools), those located in poor neighbourhoods (no fee schools and schools located on land independently owned), as well as in schools that involve considerable age mixing (combined schools). Targeted interventions may be required for combined schools and those located in the poorest neighbourhoods.

Abortion

Despite the legalisation of abortion in SA in 1996 and the progressive increase of service availability in public and private facilities over time, few teenagers report using legal services for termination of pregnancy in both quantitative (3%) and qualitative data. Administrative data from the Department of Health, however, suggests much higher levels (30%) of usage of legal services by young women aged 15-19. These data sources need to be reconciled to establish a true estimate of use of services. Failure to use legal services is related to the ensuing lack of information about the costs of termination and the stage of gestation at which legal termination can take place, as well as the stigma of pregnancy and abortion generated in the community and replicated within the health system. Although abortion is recognised as morally and religiously objectionable, young people apply a 'relative morality' to abortion to circumvent both social and financial hardships and to protect their educational opportunities. So termination does take place, albeit, illegally.

Determinants

What the analysis of the trends in fertility show is that the moral panic about rising teenage pregnancy in SA is unfounded. It is one area in which policy instruments related to information dissemination (primarily related to HIV), family planning services, and expanding access to education, have been effective. In fact, with the changing socio-economic landscape in SA, positive attitudes towards early pregnancy reported in the early 1990s have shifted. Over two thirds of young women report their pregnancies as unwanted because it hobbles educational aspirations and imposes greater financial hardships in a context of high levels of poverty and unemployment. What is more, significant progress has been noted in dramatically increasing contraceptive use among young people, in particular, condom use.

Yet rates of teenage pregnancy remain unacceptably high. Despite high levels of knowledge about modern methods of contraception, a large cohort of young people do not use contraception and many use them inconsistently and incorrectly. What the moral panic argument does is associate teenage sexuality and failure to use contraception with deviant individual-level behaviour. Yet the literature review and secondary analysis shows that teenage fertility is, in fact, the result of a complex set of varied and inter-related factors, largely related to the social conditions under which children grow up. These factors include:

- When young people dropout of school early on, often because of economic barriers and poor school performance, they are at significantly heightened risk for early pregnancy;
- When they grow up in residential areas where poverty is entrenched (informal areas and rural areas), they are at risk of experiencing an early pregnancy;
- When both parents, and in particular, the mother, is present in the home, risk for early pregnancy is decreased;
- When stigma about adolescent sexuality abounds, few opportunities exist for open communication about sex with parents and partners, and access to judgement-free health services are constrained. As a result, gaps in knowledge about, and access to, contraception is limited;
- When young women are involved in relationships where power is imbalanced, men decide the conditions under which sex happens. All too often, this involves coerced or forced sex;
- When young women struggle to meet immediate material needs, they make trade-offs between health and economic security. Reciprocity of sex in exchange for material goods leads to young women remaining in dysfunctional relationships, engaging in multiple sexual partnerships and involvement with older men. Under such conditions, there are few opportunities to negotiate safe sex and the risk for pregnancy is increased.

Pervasive poverty in SA stacks these overlapping sources of risks among some young people, offering them limited information to make optimal choices and few incentives to protect themselves against pregnancy.

Role of education

Education is highly valued by young people in SA and aspirations for education are high. It is therefore not surprising that the rise in access to education since the 1970s, particularly for young women, has been met with a concomitant decline in teenage fertility. Despite the debate as to whether teenage pregnancy is a cause

of, or results from, dropout, local and international studies show that both share the common antecedent of poverty and poor school performance. While pregnancy may be the endpoint most directly associated with dropout, it is often not the cause. Girls who perform poorly at school are more likely to dropout of school, experience early fertility and less likely to return to school following a pregnancy. In fact data from SA shows that *dropout often precedes pregnancy*. Incomplete education has been identified as a significant risk factor for negative reproductive health outcomes, including early pregnancy and HIV.

Even when girls have experienced an early pregnancy, South Africa's liberal policy that allows pregnant girls to remain in school and to return to school post-pregnancy, has protected teen mother's educational attainment and helped delay second birth. However, only about a third of teenage mothers return to school. This may be related to uneven implementation of the school policy, poor academic performance prior to pregnancy, few child-caring alternatives in the home, poor support from families, peers and the school environment, and the social stigma of being a teenage mother. South African data shows that the likelihood of re-entering the education system decreases when childcare support is not available in the home and for every year that teen mothers remain outside of the education system.

Instituting strategies to retain girls in school by addressing both financial and school performance reasons, as well as ensuring early return post-pregnancy, may be the most effective social protection that the education system can offer to prevent and mitigate the impact of early pregnancy. When learners do dropout of school, concerted effort is required to re-enrol them in school or in alternative systems of education.

Young fathers

Despite the growing focus of research on fatherhood in SA, scant data is available, both locally and internationally, on young fatherhood. Available international research suggests that the profile of young fathers is no different from young women – they tend to come from low income homes, have poor school performance, low educational attainment and seldom have the financial resources to support the child and the mother. Our secondary analysis shows that premature exit from the schooling system almost doubles the odds of becoming a father early on in SA.

Qualitative research among young fathers in SA reports that much like young women, young men experience a strong emotional response on hearing about their impending fatherhood. Contrary to the perception of young women that many young fathers deny paternity, most young men in the study expressed a sense of responsibility for the child and a willingness to be actively involved in the child's life, motivated by the absence of their own fathers in their lives. But the acknowledged caring role of a father is overtaken by a need to provide financially for the child. In a context of pervasive unemployment, few young men can fulfil this role often leading to estrangement from the child. In addition, poor relations between the female partner and her family, together with cultural factors related to negotiation of paternity and ongoing responsibility for the child also serve as barriers to young men fulfilling their role as father.

Much more empirical research is required in SA on young fatherhood and to understand the role of culture and its impact on continued father involvement in children's lives. However, other policy options may have to be considered to ensure paternal support for children. These include gender-based interventions that extend the repertoire of fatherhood beyond 'providing' to being 'present and talking', especially in impoverished conditions where unemployment and poverty is high. In addition, consideration should be given to legal child support arrangements, much like in the US, where legislative interventions have resulted in increased levels of paternal involvement among children of teenage mothers.

Interventions

In keeping with the multiple spheres of influence on adolescent sexual behaviour, a number of prevention interventions have been instituted in SA. These include school-based sex education, peer education programmes, adolescent friendly clinic initiatives, mass media interventions as well as community level programmes. While the focus of these interventions has primarily been on preventing HIV, they have conferred benefit to teenage pregnancy because of their impact on sexual behaviour. Separate interventions for teenage pregnancy and HIV are neither desirable nor feasible. To prevent pregnancy from being overshadowed by a focus on HIV, however, a distinct focus on teenage pregnancy is required. But the range, scale and reach, as well as the quality of implementation of programmes vary widely and have limited their impact on adolescent sexuality. In addition, the small number and lack of rigour of evaluation studies limit the conclusions that can be reached about the effectiveness of interventions. However, based on the growing body of evidence in both developed and developing countries, particularly with regards to HIV, recommendations for effective/promising approaches can be made. These need to be taken to scale to increase the reach and impact of programmes.

What is evident is that a magic bullet for teenage pregnancy does not exist. Given the multiple levels of influence on adolescent sexual behaviour, and, in turn, pregnancy, single intervention strategies by single sectors of society will not solve teenage pregnancy. What is required is comprehensive approaches within the home, the school, the community, the health care setting and at a structural level. In addition, while each sector should act within its strength and foster linkages with other sectors, an integrated strategy is required to ensure that all sectors act towards achieving a common goal.

As *all* young people will confront their sexuality at some point in time, universal access to information and skills are required early on to enable them to make informed choices. However, where conditions stack high and overlapping levels of risk among some young people, targeted and more intensive intervention strategies will be required. It is clear, and rightly so, that the sexual risk factors are often targeted in programmes because they are more directly related to pregnancy and HIV and are more amenable to change. However, what the study has demonstrated is that non-sexual risk factors such as relational (family structure, gender relations) and structural factors (education, poverty) are critical determinants in SA. Yet the thrust of our interventions has been on sexual risk factors. Without interventions that target relational and structural factors, substantive declines in the rates of teen fertility will not be achieved. In addition, sexuality is a shared activity between two partners. It makes little sense to empower women about their sexuality without concomitant efforts to empower men about equitable gender relations.

Although strong arguments exist for the thrust of interventions for adolescents to focus on prevention, the unabated and increasing levels of marginalisation of young people across a range of domains provide impetus for a more systematic focus on treatment, care and support. Even if we instituted the most rigorous prevention programmes, some young women will experience early pregnancy. Although remediation is costly and difficult to achieve, it far outweighs the costs to a society of lost human capital potential. No doubt, second chance programmes are being provided in SA and other developing countries, often by community-based organisations. However, available evidence suggests that they are few, and in all likelihood are small scale and seldom evaluated. A systematic and more formalised system of support is required for those who do experience early pregnancy.

Recommendations

Based on the assessment of the determinants of teenage pregnancy and a review of key interventions, the following recommendations are made for interventions within the education system. Recommendations are also made for interventions within other sectors with the aim of achieving a comprehensive and integrated approach towards adolescent reproductive health.

Prevention

- Universal implementation of sex education

The international evidence for the effectiveness of sex education programmes is substantive. Although the South African evaluation studies are less convincing, sex education should form a critical component of a comprehensive strategy towards reducing teenage pregnancy. However, a number of steps need to be taken to improve the focus, quality and level of implementation of programmes in South African schools. These include:

- Ensuring that programmes meet most of the 17 criteria identified for effective sex education programmes in developed and developing countries. These criteria focus on the process of developing the curriculum, the context of the curriculum and implementation of the curriculum;
- Including a definitive focus on pregnancy (rather than only HIV) by addressing knowledge and beliefs about contraception, conception and pregnancy and focusing on responsibilities of parenthood, knowledge and skills required for successful parenthood, together with an understanding of the importance of planning for and timing of parenthood;
- Adopting a comprehensive approach that addresses both abstinence and safe sex practices, rather than an abstinence-only focus. The focus of the programme (abstinence or safe sex) should be dependent on the stage of development/age of the learner, rather than the grade. This will ensure that learners who are older for their grade (due to high levels of repetition – a known risk factor for dropout, and, in turn pregnancy) receive developmentally appropriate messaging;
- Focusing on both the biological and social risk factors (such as gender power relations, poverty, early school dropout) that lead to early pregnancy;
- Addressing barriers to the full implementation of programmes in schools including raising the level of priority it assumes within the education system, addressing community perceptions and stigma, and improving teacher willingness and readiness to deliver the programme;
- Engaging peer educators or youth/community organisations as a support to teachers in and outside of the classroom. While the benefits of peer education may be greatest to peer educators themselves, this could make an important contribution to generating a new cadre of leaders at community level who can serve as role models for among others positive sexuality and equitable gender relations; and
- Setting up a number of rigorously evaluated effectiveness studies that focus on pregnancy as a distinct outcome using biological measures.

As a support to comprehensive sex education in schools, an assessment of the availability of condoms in the community should be conducted. Where community availability of condoms to young people is low, consideration should be given to making condoms available through the school system.

- Targeted interventions for high risk groups

A number of adolescents are at elevated risk for teenage pregnancy because of the social conditions in which they live. Markers of learners at elevated risk include those repeating grades, frequently absent from school, learners with a history of childhood sexual or physical abuse, learners who use/misuse substances and learners living under conditions of extreme poverty. An early warning system must be established such that teachers can identify learners at elevated risk and refer them to systems within the school or in the community for more individualised and intensive intervention.

Our secondary analysis of EMIS data indicates that higher rates of learner pregnancies are reported in schools located in poor neighbourhoods (measured by no fee schools and farm schools) and those in which age-mixing is significant (measured by combined schools), indicative of gender power imbalances. As part of a phased approach towards teenage pregnancy within the school system, interventions should be targeted at combined schools and those located in the poorest communities.

- Interventions to retain learners in school

The traditional approach of health promotion within the school setting has been to focus on improving the health of learners to facilitate learning outcomes. However, given the significant protection that education can offer to health outcomes, improving both the quality and quantity of education may confer significant benefit.

Incomplete schooling is a significant risk factor for both pregnancy and HIV in SA. Instituting interventions that promote uninterrupted schooling may be an effective method to prevent early pregnancy and HIV. As financial concerns and high levels of repetition are two of the chief reasons for inordinate levels of dropout in SA, addressing the financial barriers to schooling and setting up a system for the remediation of school performance for those learners repeating grades may be effective interventions. Conditional cash transfer programmes have proven to be effective in improving school attendance in Mexico, Bangladesh, Nicaragua and Brazil. Plans are underway to test such a programme in SA with HIV as an outcome measure. Such an intervention may also confer benefit to teenage pregnancy but would need to be a distinct outcome measure of the trial.

When learners do dropout of school, a systematic process is required to re-enrol them in school or in alternative systems of education. To dramatically increase the number of young people enrolled in alternative pathways such as Further Education and Training or Adult Basic Education and Training, however, a number of gaps need to be addressed. These include ensuring that programmes are adequately resourced, provide quality education services, and are reframed as legitimate and credible systems linked to mainstream pathways (HSRC, 2007). In addition, alternative systems must offer viable exit opportunities for participants by cohering with further education and economic opportunities. Young people using alternative pathways rarely experience difficulties in only one aspect of their lives (Yohalem and Pittman, 2001). They often require support on multiple fronts. Service provision must be comprehensive and tend to development in a holistic manner. The structure of second chance programmes must also be flexible to accommodate the economic imperatives and family commitments that make young people turn to alternative systems.

- Service learning

Service learning that involves community service that is either voluntary or linked to the school curriculum has shown positive effects on sexual activity and pregnancy in the US even when programmes have not addressed sexuality directly. Instituting such interventions may be a cost effective youth development strategy that is in line with the goals of the second generation youth policy in SA. These include promoting community participation among school going learners and providing much needed work experience for young people – a prerequisite for employment, while concomitantly offering protection to reproductive health outcomes.

Second chances

As in most other countries that have developed flexible school policies regarding pregnancy, policy effectiveness in SA is limited by the extent to which it is consistently implemented. In particular, the core constituency – young men and women, need to be empowered about their right to education to enable them to demand access when provision is denied.

Much advocacy work is also required to ensure that the gatekeepers of education - principals, teachers and fellow learners, buy into the policy to reduce the stigma that often turns young mothers away from the doors of learning.

An enabling policy needs to be supported by a programmatic focus that addresses the barriers to learning. Chief among these is ensuring the prompt return of girls post-pregnancy into the schooling system. The suggestion of 'up to a two year waiting period' before return to school in the Department of Education learner pregnancy guidelines, may be counterproductive to both maternal and child outcomes. In addition, catch-up programmes with respect to the academic curriculum will need to be provided and, in particular, remedial education to improve school performance that often leads to dropout.

Strong referral networks are also required with relevant government departments and other community structures that can support learners with childcare arrangements, access to reproductive health services - in particular access to contraception to prevent second birth - child support grants and to develop appropriate parenting skills to mitigate the intergenerational transmission of early parenthood. While a mass-based system is effective for the prevention of pregnancy, teenage mothers benefit more from intensive, individualised support. Setting up a one-on-one relationship with an educator or community organisation will assist teen mothers in negotiating the range of new economic, educational and social imperatives that they face.

Other sectors

Communities

There is ample empirical evidence to show that when young people are excluded from mainstream systems such as education, they are at increased risk for high risk behaviour. This is clearly evident in SA with regards to the link between school dropout and risk for pregnancy and HIV. While interventions are instituted to prevent recurring marginalisation from the school system, concomitant efforts are required within the community to support young people at high risk for pregnancy. But community participation among young people is very low in SA and the reach of large-scale interventions in the community such as loveLife is not optimal. Expanding participation in community-based interventions represents a potential growth area in responding to adolescent sexual and reproductive health in SA although more rigorous evaluation studies are required to demonstrate their efficacy.

In addition, given that stigma about adolescent sexuality and imbalanced gender relations are often generated at community level and replicated within homes and the health setting, instituting interventions to shift community norms may be an effective method to open up channels of communication about sex, to improve young people's access to health services and to foster equitable gender relations.

Given the inextricable link between adolescent motherhood and poverty and socio-economic disadvantage, efforts to empower young women through skills development and opportunities for developing sustainable livelihoods may assist in minimising trade offs between health and economic security. In fact a cluster randomised trial that tested a microfinance structural intervention on economic security, empowerment of women and intimate partner violence, was able to half the risk of physical and sexual violence after 2 years (Kim *et al.*, 2007). Such interventions that create synergy between health and development goals, may offer promising approaches for pregnancy and HIV risk reduction.

Health

Despite significant advancements at policy and programmatic levels to improve the availability and accessibility of health services to young people, usage is compromised by lack of acceptability of services. Even with the roll out of the Adolescent Friendly Clinic Initiative in SA, young people are still confronted with the negative and stigmatizing attitudes of health staff. Thus young women would rather not use contraception, delay accessing antenatal care when they are pregnant, or resort to illegal means for termination of pregnancy. Much more rigorous effort is required to roll out adolescent friendly services and to entrench its key principles among the custodians of healthcare. In addition, the full range of preventative services for pregnancy should be made available and accessible to young people. In particular, emergency contraception, that is considered safe and effective, and that *does not increase sexual activity* among young people, should be deregulated to increase availability and usage.

Until the quality of healthcare services can be improved for young people, consideration should be given to making available health services outside of the health system. For example, mobile services are proving to be an effective means to provide voluntary counselling and testing services to young people, in particular, young men, who do not generally attend traditional health services.

Parents

As the primary socialising agents of children, parents are a trusted source of information about sexuality for young people. Yet this represents a missed opportunity because most parents lack both knowledge and skill to talk openly about sex and felt disempowered to parent their children in an environment that emphasizes a rights-based culture for children. In addition, the generational knowledge gap, fuelled by the educational gap between parents and children, also contributed to their sense of disempowerment. However, family level interventions trialed in SA have shown that programmes can promote open communication between parents and children about sensitive subjects and foster strong parent-child bonds, as well as teach parents how to set and enforce rules. As a support to sexuality education in the school setting, consideration should be given to wide scale implementation of such programmes.

Mass media

Mass media campaigns in SA have played a seminal role in improving knowledge about sexual behaviour and, in particular, about HIV. Three multi-media campaigns, namely loveLife, Soul City and Khomanani have reached high levels of coverage among young people – the former two above the 80% mark required for high intensity and high frequency coverage. Evidence for the cumulative effect of a range of mass media programmes suggest that they have been effective in shifting a number of health behaviours including condom use, self-efficacy to use condoms, communication with partners and peers about HIV testing and faithfulness to partners. While there is support for the increased coverage and intensity of media programmes, a distinct focus on teenage pregnancy is required. In addition, because of the threshold effect of exposure to media programmes, such interventions need to form part of a comprehensive strategy towards teenage pregnancy.

Introduction

The transition to parenthood is a major event in the lifespan of any individual, but takes on special significance when it occurs early on, particularly in a changing global context for young people (National Research Council & Institute of Medicine, 2005). Being ready to take on the lifelong responsibility of rearing a child, and in many respects shaping the outcomes of the next generation, requires not only physiological and psychological maturity, but also family circumstances that can offer the support necessary to make a successful transition to parenthood. First time parents are more successful when they have completed their other transitions - to education, to work, to citizenship and to marriage (NRC & IOM, 2005). It is through these transitions that young people begin to build the skills, experience and social stock necessary to succeed as parents (NRC & IOM, 2005). And, although alternative pathways to parenthood occur and are tolerated to some extent, institutional support for parenthood is still geared towards a traditional sequencing of transitions (NRC & IOM, 2005).

But in a rapidly changing global context with new found opportunities and risks for young people, the benchmarks for successful transition to adulthood have changed. Youth today are the best educated ever in human history and the majority of young people aspire towards, and see the benefits of, education. Advances in healthcare mean that many more children are able to enter youth healthier than ever before, and access to contraception means that family sizes are diminishing too. The spread of democratic governance offers many young people the opportunity to participate in civic and political life (NRC & IOM, 2005).

But the future has never been as precarious for young people. While the quantity of education is expanding, its quality is contracting; when more young people can access education for longer, fewer are able to find work; when healthcare has advanced exponentially in the last century, new communicable diseases are hobbling the opportunities of young people; when rights to participate in decision making is entrenched in law, too many are withdrawing their participation; and in the age of an information, communication and technology explosion, behaviour change has never been as difficult to bring about. In such a context, where the linearity of transitions has been fractured, early childbearing and its consequences for individuals and for institutions take on new levels of significance and meaning.

HIV and AIDS is now recognised as the primary reproductive health concern for adolescents, overtaking the long-standing emphasis on adolescent fertility. Yet childbearing among teenagers remains a common social and public health concern worldwide, affecting nearly every society (Dangal, 2006; Hogan, Sun & Cornwell, 2000; Shaw, Lawlor & Najman, 2006). Even though public health literature and family planning services treat pregnancy and HIV as distinct, they share the common antecedent of unprotected sex. In fact, there is evidence that pregnancy and lactation increases the susceptibility to HIV infection by induced immunological changes (Gray *et al.*, 2005). As such teenage mothers, and in particular, pregnant women represent an important target group for HIV prevention.

The Millennium Development Goals (MDGs) defined by Heads of State in 2000 placed maternal health firmly on the international agenda by identifying it as the fifth of eight goals that the world must respond to decisively by 2015 (United Nations, 2000). Because of the physiological risks associated with early childbirth, and the risk to the overall wellbeing of the mother and their children, decreasing adolescent fertility is identified as one of the indicators to monitor progress in achieving this developmental target. Teenage fertility, establishes the pace and level of fertility over a woman's entire reproductive life span (Ventura, Abma, Mosher & Henshaw, 2008; Woodward, Harwood & Fergusson, 2001). This has an impact not only on women's health, but on the socio-economic status and general wellbeing of the population.

Adolescence and early adulthood are considered the healthiest stages of the lifespan. Yet young people contribute substantively to the quadruple burden of disease profile in South Africa (SA). While deaths from HIV and injuries peak in the youthful years, the risk factors for death from non-communicable disease are also initiated during adolescence and early adulthood. In fact, unsafe sex/sexually transmitted infections (31.5%), interpersonal violence (8.4%), alcohol use (7%) and tobacco use (4%) - the vast majority of which are initiated during adolescence - are the leading risk factors for the burden of disease profile in SA (MRC, 2008).

HIV is the most critical threat to the health and overall wellbeing of youth in SA. Because the epidemic is driven by infections among young people, they are a critical group to intervene with to halt the spread of AIDS and reduce new infections (UNAIDS, 2004). There is a strong association between pregnancy and HIV infection in SA. Antenatal data shows that 12.9% of 15-19 year old pregnant women are HIV positive (DOH, 2008b). From age 17 onwards, every second women who has been pregnant is infected with HIV (Harrison, 2008a).

Even though teenage fertility has been the subject of substantial debate in the social science research and policy circles, concern has not emanated from the increased risk that pregnancy confers to HIV. While current political and media depictions imply that SA is confronted with an escalating epidemic of teenage pregnancies, available data suggests that it is an area in which substantial progress has been made since democracy. Yet teenage pregnancy has grown in significance as a social construct and come to represent one of several indicators of burgeoning adolescent delinquency, sexual permissiveness and moral decay.

The moral panic about teenage pregnancy re-emerges perennially through media reports of links between teenage pregnancy and the child support grant, rising school dropout rates because of pregnancy and the increased visibility of pregnant girls in schools (see for example 'Pupil dies after giving birth' *The Star*, February 13 2009; 'Teenage pregnancy no surprise?', *The Mercury*, May 9 2008; 'Pregnant pupils expelled', *The Mercury*, May 8 2008; 'Pregnancy Blues', February 13 2008; 'Child grants used for booze – NGOs', *Cape Argus*, September 29 2008; 'Maternity leave for SA's pregnant pupils', *The Times*, May 30 2007).

Such a negative and moralistic framing of the issue shifts the focus away from the successes that have been achieved in decreasing teenage pregnancy and coping with its consequences. It is victim—blaming, placing the responsibility for teenage pregnancy squarely on the shoulders of individuals and drowns out evidence-based rationale (such as the critical link between pregnancy and HIV) for why public expenditure should continue to focus on teenage pregnancy.

Despite the legislative and biomedical successes in positively influencing the trajectory of teenage pregnancy in SA, rates still remain unacceptably high. In part, this can be explained by the demographic transition that SA is undergoing resulting in a shift in fertility to younger ages. But for most parts, it can be explained by the range of deeply rooted social drivers, common to many public health issues that are yet to be adequately addressed in SA. Factors such as low levels of skills to negotiate sexuality, poor access to healthcare services, gender power imbalances, sexual coercion and violence, poverty, low socio-economic status and poor life opportunities to further education or to establish livelihoods lie at the heart of early pregnancy, HIV and other sexually transmitted infections among young people.

Education is central to the development of young people as it prepares them for the world of work and for life. In line with global trends, young people in SA are spending more years acquiring the requisite levels of education. Enrolment rates in primary and secondary school are high in SA. But rates of repetition, drop out, late entry and re-entry persist, implying that age for grade matching is poor. Aspirations for education are high

in SA and many older learners can still be found in secondary school. As such, as part of the natural course of development, sexual experimentation and maturity is increasingly coinciding with secondary schooling. For most, it remains at the level of experimentation and if sex occurs, indications are that it is more likely to be protected when young people are still at school (NRC & IOM, 2005). However, for a minority, it results in unwanted pregnancy, HIV and other sexually transmitted infections. This has implications for continued educational opportunities.

In a rights-based society, young girls who experience early pregnancy should not be denied access to education and this has been entrenched in law through the Constitution and Schools Act of 1996, but has largely been the practice before the transition to democracy. However, without policy to govern practice, implementation has been uneven and some girls continue to be stigmatized, suspended, or expelled from school when they experience an early pregnancy. Schools, require guidelines on how to uniformly and optimally prevent and respond to early pregnancy such that the right of the adolescent to education is protected and equally balanced against their need to access healthcare and support, and to maintain the focus on learning within the school environment.

In 2007, the Department of Education released *Measures for the Prevention and Management of Learner Pregnancy*. Not without controversy, the measures continue to advocate for the rights of pregnant girls to remain in school, but suggest an up to two year waiting period before girls can return to school in the interest of the rights of the child. Any proposed shift in policy and practice needs to be informed by a well-rounded understanding of the context of teenage pregnancy. It is in this light that UNICEF, on behalf of the Department of Education, commissioned the Human Sciences Research Council (HSRC) to consolidate the available research on teenage pregnancy in SA, with a focus on pregnancy in the school setting.

Methods

Terms of reference

Aims

The purpose of the study is to document, review and critically analyse literature on teenage pregnancy with a focus on school-going adolescents.

Objectives

The specific objectives are as follows:

- To review existing literature and conduct statistical analyses to establish the prevalence and determinants of teenage pregnancy;
- To assess the individual, familial and educative impact of teenage pregnancy;
- To identify and assess the impact of interventions for teenage pregnancy; and
- To propose a conceptual framework for research and interventions to prevent and mitigate the impact of teen pregnancy.

Approach to the study

The study involved a desktop review of literature supported by secondary data analysis to provide an overview of research on the prevalence, determinants and interventions for teenage pregnancy.

Literature review

Although the study focused on pregnancy, the detailed trends presented in the report are on fertility. Understanding the distinction between pregnancy and fertility is essential. Fertility rates refer only to pregnancies that have resulted in live births while pregnancy rates include those that were terminated. Before the introduction of the termination of pregnancy legislation, fertility closely approximated pregnancy rates. Since the legalisation of abortion, however, this cannot be assumed to be the case. Trends in pregnancy rates in SA are not well known for two reasons. First, it is not known whether pregnancies that were terminated early on are well captured in survey data and school record systems. Secondly, a comprehensive national register of abortion is not maintained in the country.

SA lacks vital statistics on fertility, pregnancy and abortion. Nevertheless, national trends in teenage fertility could be gauged from the 1996 and 2001 Census data as well as the 1996 South African Demographic and Health Survey (SADHS). Some caution has to be exercised in interpreting the Census data as a significant amount of data had to be imputed because of missing information. The fertility data collected in the 2003 SADHS is unreliable due to problems with fieldwork in KwaZulu-Natal. Hence national data on teenage fertility is not available in SA post 2001. However, trends in fertility can be estimated from demographic surveillance sites in rural KwaZulu-Natal and Bushbuckridge in Limpopo province. Both sites have collected fertility data over the past two decades providing an overall picture of the trends in teenage fertility pre- and post 2001.

The literature review comprised the following steps:

Keyword searches were conducted for each level of review (prevalence, determinants and interventions) for local and international articles in English on the following six public research databases (Ebscohost, ProQuest, ScienceDirect, SABINET, African Health link and African Journals online). For a detailed description of the databases covered see Appendix 1.

Studies dated between 2000 and 2008 were eligible for inclusion. However, seminal works prior to 2000 were also considered. The search focused on teenagers between the ages of 15-19 years. However, age definitions used in studies may differ from country to country and if these studies were included, the age ranges are specified. Reference lists of seminal articles were also scanned to identify papers and reports. The searches included published peer-reviewed journal articles, conference presentations, reports, book chapters, abstracts, as well as evaluations of interventions targeting youth and adolescents.

Through the HSRC's own work on adolescent risk behaviour, particularly, teenage fertility, sexual behaviour, and behaviour change models, an extensive bibliography on the prevalence, determinants and interventions for adolescent risk behaviours had been developed and this was included as part of the review.

In view of the high rates of HIV infection among young people in SA, sexual behaviour of adolescents has received much national scholarly interest. Four national studies were used extensively in the review to characterise youth sexual behaviour. These include:

- The 2003 Reproductive Health Research Unit survey on HIV and sexual behaviour of youth aged 15-24 years (Pettifor *et al.*, 2004), referred to in the study as the *2003 RHRU survey*;
- The 2006 SABC and Kaiser Family Foundation survey that focused on HIV awareness, sexual behaviour and broadcast media among youth aged 15-24 years (Kaiser Family Foundation & SABC, 2006), referred to in the review as the *2006 Kaiser/SABC study*, and
- The 2002 and 2005 HSRC South African National HIV Prevalence, HIV Incidence, Behaviour and Communication Surveys (SABSMM) (Shisana & Simbayi, 2002; Shisana *et al.*, 2005), referred to as the *2002 and 2005 SABSMM survey*, respectively.

Review of information collected by Departments of Education, Health, Social Development, Statistics South Africa, Medical Research Council, Reproductive Health Research Unit, loveLife and other key research organisations also assisted in establishing the focus, scope and coverage of information on teenage pregnancy. In addition, key policy documents from the Department of Education, Health and Social Development, pertaining to adolescent health were reviewed to sketch the policy context.

Several studies have been commissioned by the Department of Social Development to assess the link between the child support grant and teenage pregnancy. The key findings from these studies are summarised to provide an assessment of this link.

The literature review also included a search and review of teen pregnancy, STI and HIV prevention programmes in South Africa, specifically those supported by government with the aim of identifying best practice models.

Secondary data analysis

The following datasets were analysed to establish statistical and demographic trends in teenage fertility:

- Department of Education, Education Management Information System (EMIS) data;
- HSRC, Status of Youth Survey 2003;

EMIS is a Department of Education information management system that contains selected administrative attributes of all school in SA. For the purposes of this analysis, the EMIS data set was integrated with pregnancy rates recorded in South African schools for the period 2004-2008. To provide more textured analyses of the types of schools in which pregnancies are concentrating, the following variables were captured from the Department of Education website:

- School fees: fee school and no fee school;
- The level of school specialisation: ordinary, comprehensive and specialized;
- Institutional phase of the school: primary, intermediate, secondary and combined; and
- Land ownership of the school: public and independent ownership

The EMIS data available for the study did not include variables often posited in national and international literature as having a bearing on learner pregnancy rates. These include among others, school pass rates, learner dropout rates and socio-economic levels of the school community. Nevertheless, the variables selected above do give some information on the context of the school which is relevant for the differentiation of school pregnancy rates.

The HSRC 2003 Status of Youth Survey (Richter *et al.*, 2005) was a nationally representative study of more than 3 500 young people aged between 18 and 35 years. The survey was commissioned by the Umsobomvu Youth Fund to provide a broad national picture of young people in the key domains of education, labour market participation, inequality, health and disability, crime and violence, and social integration. The data set has a number of questions that are related to the reproductive history of young people. These questions include the age at sex debut and of first pregnancy and the history of contraceptive use. In addition to these questions, the study included a number of questions about young people's childhood experiences. These include whether the young persons' biological parents were part of their childhood household; economic status of the household; and the residential type of the area. Of importance to this study, is the question that asked the age at which young people left school. This question enabled us to assess whether premature exit from the schooling system increased or decreased the chances of young people experiencing early pregnancy. More details on the study methodology can be found in Appendix 2.

The purpose of the secondary data analysis conducted for this review was to identify factors that are associated with early pregnancy. Cox regression was used for the analysis. Cox regression techniques were applied to examine the net effect of selected eco-developmental factors on early pregnancy. The selection of the independent variables was determined largely by the availability of relevant variables in the datasets collected for the study.

Cox regression is a life table method that assesses the relationship between independent variables (e.g., family structure, type of childhood residence, childhood poverty and school dropout) and a dependent variable (early pregnancy) that is continuous and is censored by the interview process. In this study, the technique was used to determine the number of years a woman takes from birth to the time of experiencing first pregnancy, when not all women interviewed have actually fallen pregnant (censored by the interview process). In addition, an assessment was made of childhood experiences mentioned above that lead to women having earlier or later pregnancy.

Definitions

Adolescent fertility rate (also known as teenage fertility rate or teenage birth rate) is defined as the number of live births per 1000 women aged 15-19 years.

Teenage pregnancy rates include number of stillborns, abortions and miscarriages. Data on abortion rates are often unavailable and unreliable, especially in developing countries, due to variations in the legal status of abortion. Hence adolescent fertility rates may be a more reliable measure.

Age specific fertility rate is defined as the incidence of live births per female population of a given age group per year.

Total fertility rate is defined as the mean number of children a woman would have by the end of her childbearing years if she were to pass through these years bearing children at the age-specific rates.

Both local and international studies use variable definitions of adolescent fertility, and these are often not clearly defined. In some cases, only live births are reported, in others, pregnancy rates (that include stillborns, abortions and miscarriages) are reported, and yet in others conception rates (excluding stillborns, abortions and miscarriages) are reported. This makes the interpretation of findings and comparability of rates across studies difficult. Because abortion is illegal in many countries and statistics are not always reliable in countries where it is legalised, the study primarily reports on adolescent fertility rates. However, where data is only available on teenage pregnancy rates, these are specified.

Trends in Teenage Fertility

Literature review

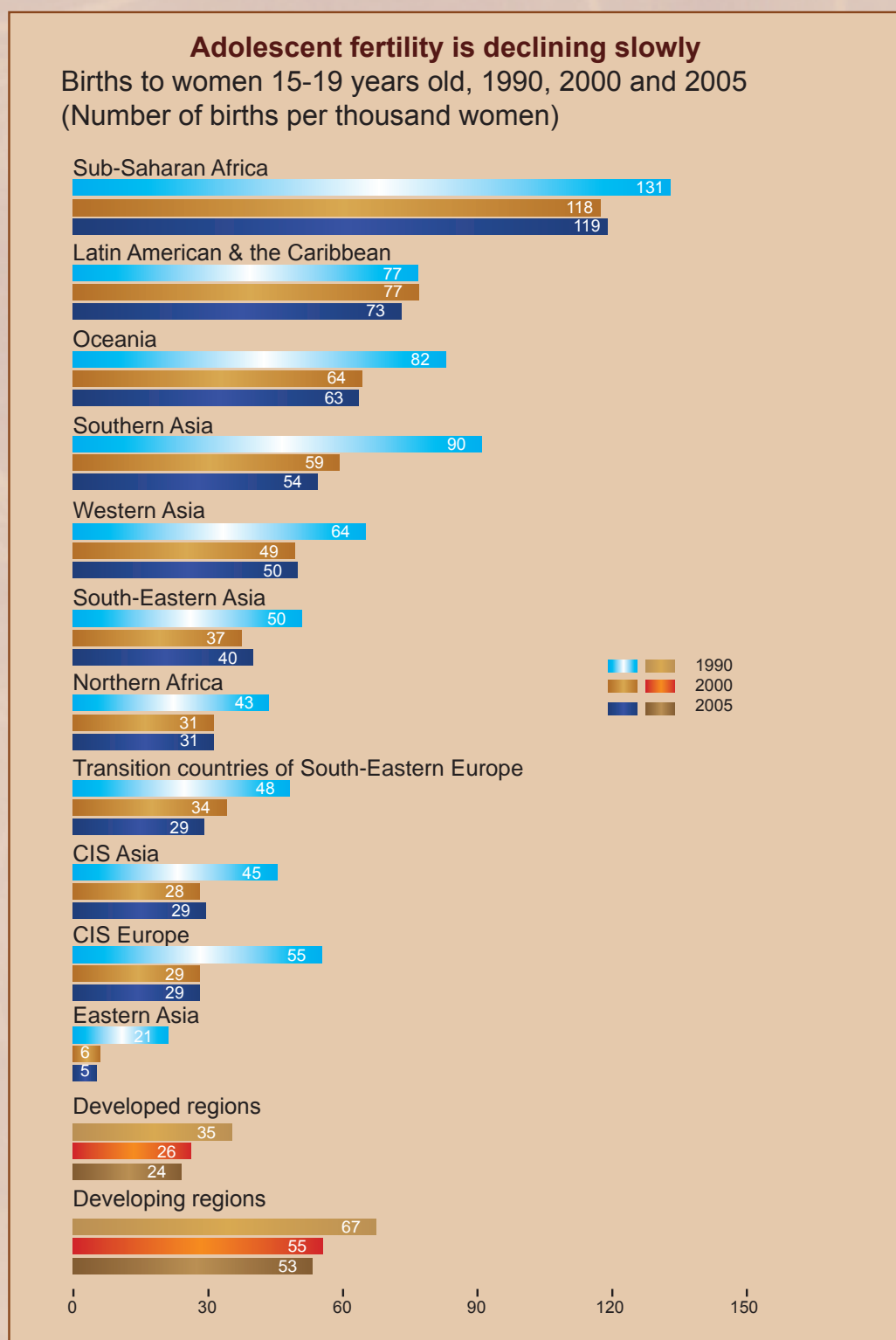
International

Fertility rates for all women continue to fall worldwide. Adolescent fertility rates were fairly high at a global level prior to the early 1990s. However, fertility rates have progressively declined over time or remained constant (Santelli, Carter, Orr & Dittus, 2009; Santelli, Durberstein-Lindberg, Finer & Singh, 2007). Adolescent fertility rates fell in almost all developing countries between 1990 and 2000. However rates either stagnated or increased marginally between 2000 and 2005 (see Figure 1) (United Nations, 2008). Sub-Saharan Africa has the highest teenage fertility rates in the world and rates have declined only marginally between 1990 and 2005 (United Nations, 2008). Although overall fertility has declined substantively in Latin America and the Caribbean as well as South-Eastern Asia over the past two decades, little progress has been made in declining adolescent fertility in these two regions (United Nations, 2008). Global declines in overall fertility have been attributed to the increased availability of family planning, but there is as yet a substantial unmet gap for contraception among young women (United Nations, 2008).

Developed countries experienced a long period of industrialization which was accompanied by declining overall fertility levels and a rise in the age at first marriage since the 1970s (Singh & Darroch, 2000). The United States (US), however, has had one of the highest teenage fertility rates and the decline has been slow (Singh & Darroch, 2000). This has been related to higher levels of inequality in the population (The Alan Guttmacher Institute, 2001). Similarly, the UK reports the highest levels of teenage fertility in Western Europe. However, dramatic declines in teenage fertility have been reported in the US in the past decade and to a lesser extent in the UK through a number of focused policy strategies. While teenage fertility rates decreased in the US by 35% between 1991 and 2005 (Ventura *et al.*, 2008), rates in the UK declined by 10.6% between 1994-98 and 1999-2003 (Wilkinson *et al.*, 2006).

Africa, the Caribbean and Asia have a different historical context and overall fertility including adolescent fertility rates is mostly higher than that in developed countries. Given a largely agrarian, rural society in Africa, in some cases children play a crucial role in sustaining the agrarian livelihood and therefore demographic and fertility transition lags behind. In addition, socio-economic status, particularly education, plays a crucial role in reducing fertility (Bongaarts, 2002). Analysis of the determinants of age specific fertility rates in 24 countries in Africa showed that declines in fertility have stalled in countries where there has been little educational and economic progress (Shapiro & Gebreselassie, 2007). However, countries that have increased the number of women with secondary or higher education have experienced declines in fertility (Shapiro & Gebreselassie, 2007).

Figure 1: Births to women aged 15-19 per thousand women, 1990, 2000 and 2005



Source: United Nations, 2008

National

Fertility history in South Africa

South Africa has the lowest Total Fertility Rate (TFR) in sub-Saharan Africa with rates comparable to middle-income countries in the developed world (Moultrie & Timeaus, 2003). The fertility decline in SA has run a long

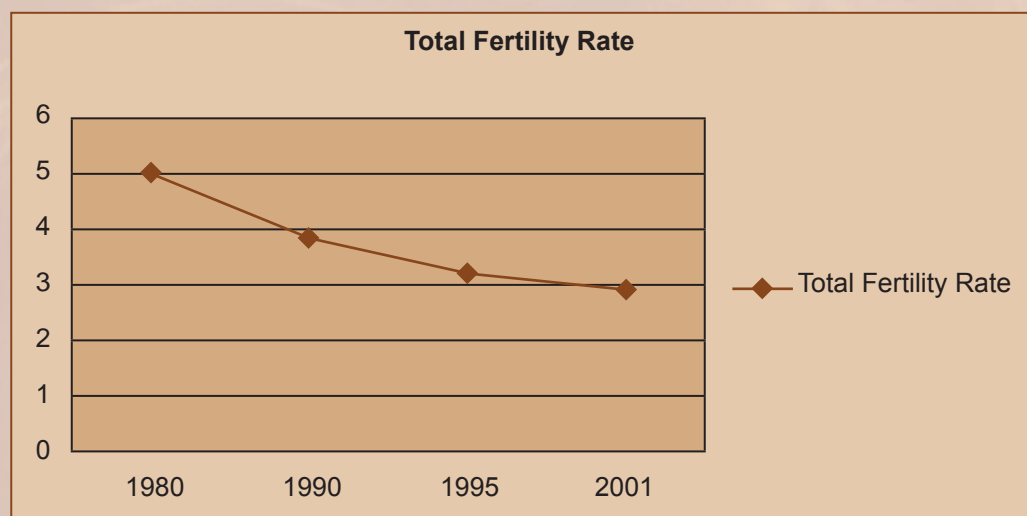
course of almost half a century. Earlier work on fertility in SA documented from the late nineteenth century up to the early 1970s was mostly based on census data (see Gouws, 1987; Sadie, 1978; Simkins & van Heyningen, 1989). From the 1980s, direct estimates were derived from demographic and health surveys, conducted throughout SA. These surveys were modelled on World Fertility Surveys (WFS). Surveys were conducted separately for different administrative areas of SA, with slight variations in content and timing. Results of these surveys were mainly used to estimate fertility levels.

The fertility level of the White population recorded in the early thirties was 3.3. This fluctuated over a narrow range until the early seventies, when it continued to decline to the present estimates of 1.7, considered below replacement level. Fertility levels of the Indian and Coloured population were recorded as 7.3 and 6.3 respectively in the period 1936-1941 (the Indian fertility level was the highest in SA during this period). Fertility declined much faster amongst the Indian population from 7.3 to the present estimate of 2.1 (Grobbelaar, 1984; Mostert, 1991; Sadie, 1973).

A significant decline in fertility among the Coloured and Black population began much later in the early sixties. In the time period until recently, fertility declined more rapidly among the Coloured population group than among the Black group. Major questions remain about the fertility transition of the Black population. The timing of the onset of the fertility decline is unclear. It has been dated to the first half of the 1960s without any strong empirical evidence. We know that the fertility data of the Black population which was available in the 1960s could not have been strong enough to permit a rigorous estimation of trends. New data has been produced in the last twenty years that improves our knowledge of recent trends in fertility at the national level. These include the data from series of surveys by the HSRC from 1987 to 1989, called the South African Demographic and Health Surveys (SADHS), and covered the formerly White SA and the homelands (Mostert, 1991), the Living Standard Survey of 1993 and the results of the annual October Household Surveys since 1993.

Estimates from the Living Standard Surveys (LSS) and the Central Statistics Services (CSS) paint a general picture of declining fertility in recent times. Based on the CSS figures for 1994, national fertility declined from 4.3 to 2.9 which represents a 32.6% change within a period of less than ten years (1982-1992). Most of the decline in fertility during this period occurred among the Black population.

Figure 2: Overall fertility trends in South Africa



Source: Zuberi *et al.*, 2005

Teenage fertility in relation to overall fertility

In most traditional societies of the world, marriage is early and universal. In addition, marriage is associated with the onset of reproductive life. However, in SA, marriage is not universal and when it does happen it is usually delayed. The average age of marriage in SA is estimated at 29 years, and about half of all women in the reproductive ages do not marry (Kalule-Sabiti, Palamuleni, Makiwane & Amoateng, 2007). While early marriage is rare, this does not deter childbearing among adolescents. Data from the 2003 Status of the Youth Survey (Richter *et al.*, 2005) showed that the median age of sexual debut is between ages 16 and 17. By age 20, half of young people have given birth to a child.

The relationship between marriage and fertility is tenuous. While fertility in SA is common outside marriage, non-marriage generally leads to higher fertility. This is reflected by the common occurrence of early and unplanned births to unmarried women, which is followed much later by a more controlled childbearing trajectory (Makiwane, 1998).

Generally, overall fertility trends in SA and most developing countries is uni-directional - from high to low fertility. While over time, teenage fertility in SA is also declining, albeit at a slower pace than overall fertility, evidence is that this decline is interrupted from time to time. Available evidence, shown below, indicates that teenage fertility is subject to fluctuations that are uncommon to overall fertility. The two case studies illustrate this point clearly.

Case A: Trends in fertility in the Eastern Cape

The first case is based on analysis of data collected in 1993 by the Department of Welfare and Pension in the Eastern Cape for a study titled '*Fertility and family size preferences in the Eastern Cape: A study of the Transkei sub-region*'. The study based its sampling frame on the 1991 census figures. A representative sample of 2 290 women between the ages of 15 and 49 was interviewed. The questionnaire included sections on household characteristics, demographic information and questions on reproductive health.

Fertility trends were analysed from the data set using Fertility Exposure Analysis (FEA) by Hobcraft and Little (1984). With FEA, estimates of fertility change can be derived from different surveys provided that the data are available and survey methodologies are sufficiently similar (see Pullum, Casterline & Shah, 1987). The FEA method enables one to track fertility trends from the birth histories of women interviewed.

From the FEA analysis, Table 1 below shows age specific fertility rates and total fertility rates in five year age groups for the period 1980-1994 for women classified by marital status.

Table 1: Fertility trends in Transkei by marital status and age, 1980-1994

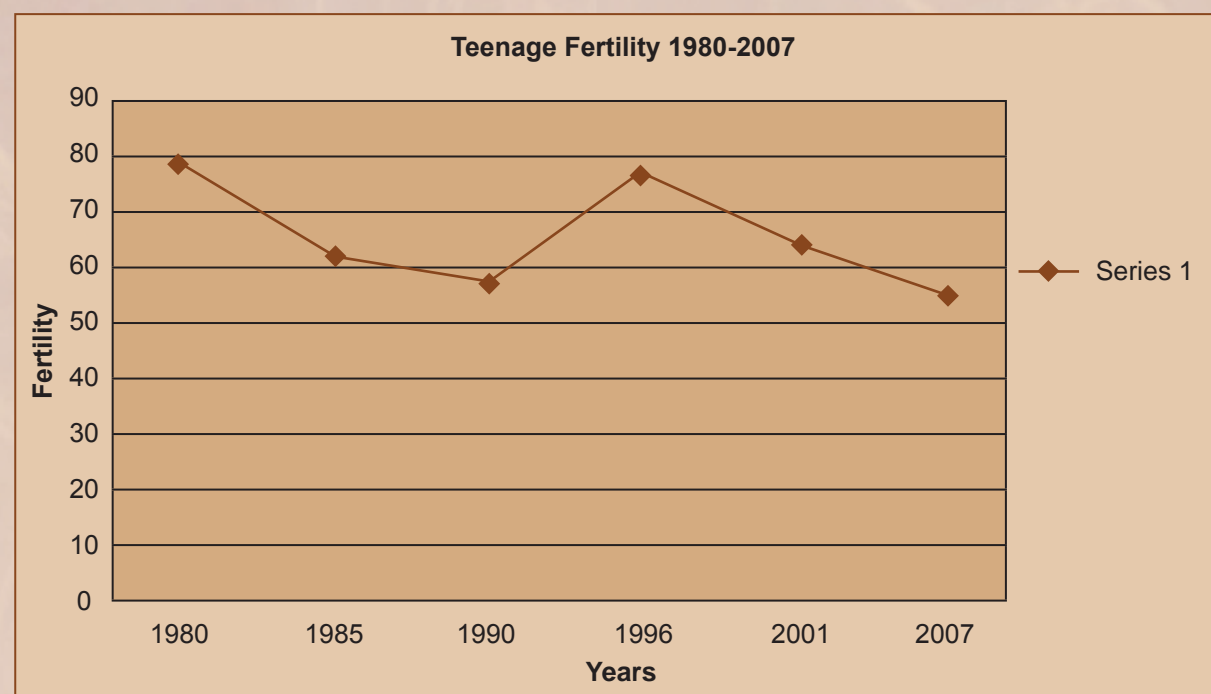
Marital Status	Age at Survey	1980-1984	1985-1989	1990-1994
All Women	15-19	0.040	0.046	0.042
	20-24	0.190	0.167	0.159
	25-29	0.232	0.229	0.215
	30-34	0.212	0.216	0.201
	35-39	0.194	0.155	0.165
	40-44	0.128	0.128	0.104
	45-49	0.047	0.047	0.047
	TFR	5.4	5.0	4.7
Ever Married	15-19	0.051	0.84	0.096
	20-24	0.203	0.199	0.262
	25-29	0.246	0.255	0.257
	30-34	0.228	0.237	0.216
	35-39	0.195	0.171	0.173
	40-44	0.131	0.131	0.115
	45-49	0.045	0.043	0.043
	TFR	5.4	5.6	5.8
Currently Married	15-19	0.049	0.083	0.110
	20-24	0.200	0.195	0.261
	25-29	0.250	0.266	0.261
	30-34	0.243	0.254	0.225
	35-39	0.235	0.173	0.187
	40-44	0.165	0.165	0.130
	45-49	0.057	0.057	0.057
	TFR	6.0	6.0	6.1
Never Married	15-19	0.022	0.024	0.039
	20-24	0.153	0.109	0.101
	25-29	0.171	0.153	0.136
	30-34	0.111	0.127	0.155
	35-39	0.192	0.058	1.131
	40-44	0.108	0.108	0.037
	45-49	0.069	0.069	0.069
	TFR	4.1	3.2	3.3

In the late eighties, fertility declined among women in their thirties and forties and the reverse was the case for women below thirty, where a slight increase was recorded.

The study also shows a considerable reduction in total fertility in the ten year period. A more complex picture is evident for women in their teenage years. Generally, overall teenage fertility rose in the early eighties from 40 births per 1000 women to about 46 births per 1000 women and it declined again to about 42 births per 1000 women in the early nineties. A different picture is evident for women who never married. For the same period, fertility of teenage women who never married consistently increased from 22 to 24 and 39 births per 1000 women respectively. This occurred in spite of a massive overall decline in the fertility of never married women during the same period.

Case B: South African fertility trends, 1980-2007

Figure 3: Trends in teenage fertility, 1980-2007

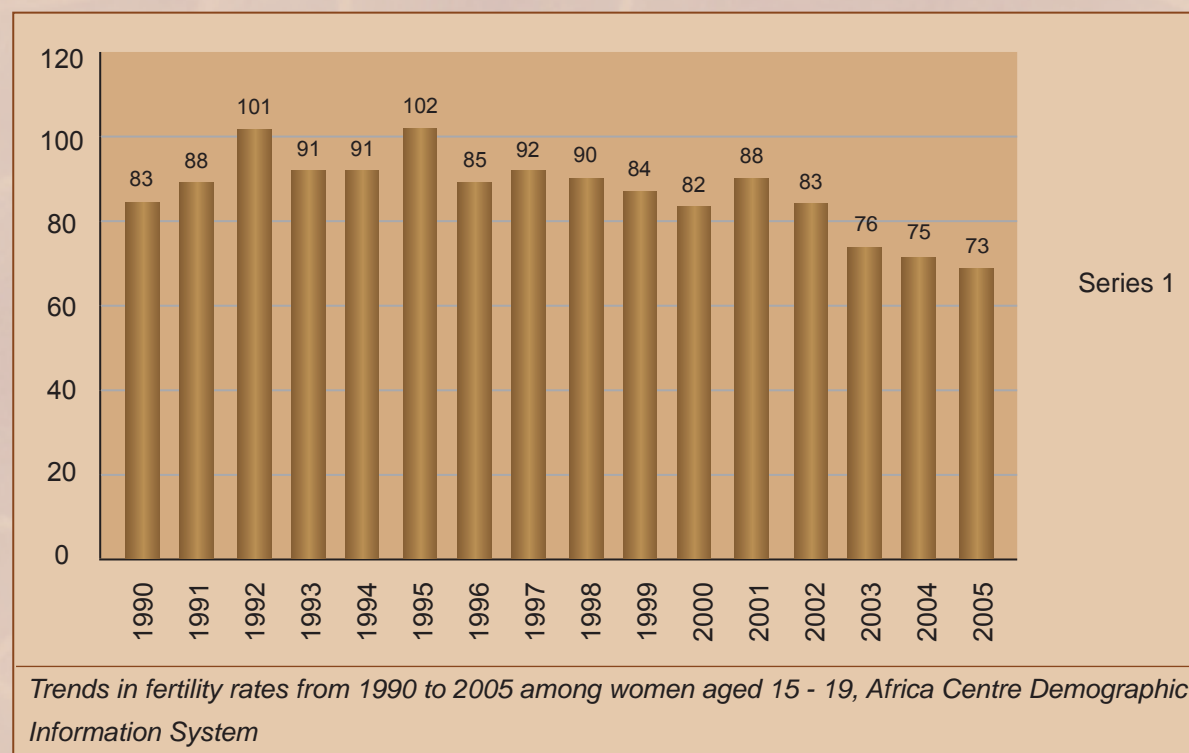


Source: Moultrie & Timaeus, 2003; Statistics South Africa, 2008; Udjo, 2003

Figure 3 tracks national trends in teenage fertility for the period 1980-2001. The estimates for 1980, 1985 and 1990 were reported in Udjo (2003). These estimates were derived from 1970 census, birth registrations, and the 1995, 1997 and 1998 October Household Surveys. The estimates for 1996 and 2001 were derived from 1996 and 2001 census, discussed in Moultrie and Timaeus (2002). The estimates for 2007 were derived from the Community Survey (Statistics South Africa, 2008)

The composite estimates for the period indicate that there was a decline in teenage fertility throughout the eighties, followed by a spike in the early nineties. This spike coincided with the political transition taking place in the country at the time. The above trends were verified below from a demographic surveillance site - Africa Centre for Health and Population Studies in rural KwaZulu-Natal. The figure below confirms a spike in fertility in the early nineties, followed by a sustained decline in teenage fertility until 2005.

Figure 4: Trends in teenage fertility-Africa Centre Demographic Surveillance System, 1990-2005



Source: Moultrie & McGrath, 2007

Various recent data sources also indicate that teenage fertility in SA has declined over the past decade. Using Census data and the 1998 SADHS, Moultrie and McGrath (2007) demonstrated a 10% decrease in teenage fertility between 1996 (78 per 1000) and 2001 (65 per 1000). A further decline in teenage fertility (54 per 1000) is noted in the 2007 Community Survey (Statistics South Africa, 2008).

Table 2: Teenage fertility rates (per 1000 women) by population group, 1996-2001

Data source	National	African	Coloured	Indian	White
1996 Census	78	86	68	24	19
1998 DHS	76	81	81	26	20
2001 Census	65	71	60	22	14

Source: Moultrie & McGrath, 2007

The 2003 RHRU survey reported that 15% of teenage women aged 15-19 had ever been pregnant. This is comparable with the results of the 1998 SADHS that showed that 13.2% of women aged 15-19 years had given birth or 16.4% had ever been pregnant (DOH, MRC & Measure DHS, 2002). The 2003 SADHS reported that pregnancy amongst 15-19 year olds declined from 16.4% in 1998 to 12% by 2003 (DOH, MRC & OrcMacro, 2007). However, problems with fieldwork in 2003, limit the quality and hence the reliability of the 2003 data.

Lessons from analysis of trends in fertility

Teenage fertility has been declining, however, at a slower pace than overall fertility. In addition, the two case studies show that teenage fertility is subject to fluctuations generated by the socio-political environment, more so than overall fertility that follows the classic trends predicted by the demographic transition from high to low

fertility. As a result of these fluctuations, the share of overall births attributable to young people has risen over time. The main lesson is that strategies that seek to reduce teenage fertility should be contextualized to the socio-political environment.

Differentials

Data from the 1998 SADHS shows that fertility levels differ by age, location, educational level and population group (see Table 3).

Table 3: Adolescent pregnancy and motherhood, South Africa, 1998

Adolescent pregnancy and motherhood			
Percentage of women 15-19 who are mothers or have ever been pregnant, by selected background characteristics. South Africa 1998			
Background Characteristics	Percentage who:		
	Are mothers	Have ever been pregnant	Number of women
Age			
15	2.0	2.4	468
16	5.2	7.9	458
17	10.7	14.2	444
18	19.8	24.6	474
19	30.2	35.1	406
Residence			
Urban	10.5	12.5	1,197
Non-urban	16.3	20.9	1,052
Province			
Western Cape	13.7	16.4	195
Eastern Cape	14.8	18.2	369
Northern Cape	15.2	18.0	44
Free State	8.4	12.6	136
KwaZulu-Natal	13.8	16.7	457
North West	11.0	13.4	164
Gauteng	8.9	9.5	377
Mpumalanga	18.8	25.2	190
Limpopo	14.9	20.0	318
Education			
No education	*	*	19
Sub A - Std 3	24.7	29.2	114
Std 4 - Std 5	13.8	17.4	336
Std 6 - Std 9	12.9	16.3	1,542
Std 10	7.9	10.1	177
Higher	4.0	4.0	60
Population group			
African	14.2	17.8	1,802
Afr. urban	11.6	13.7	812
Afr. non-urban	16.4	21.1	990
Coloured	15.7	19.3	208
White	2.2	2.2	162
Asian	2.9	4.3	66
Total	13.2	16.4	2,249

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

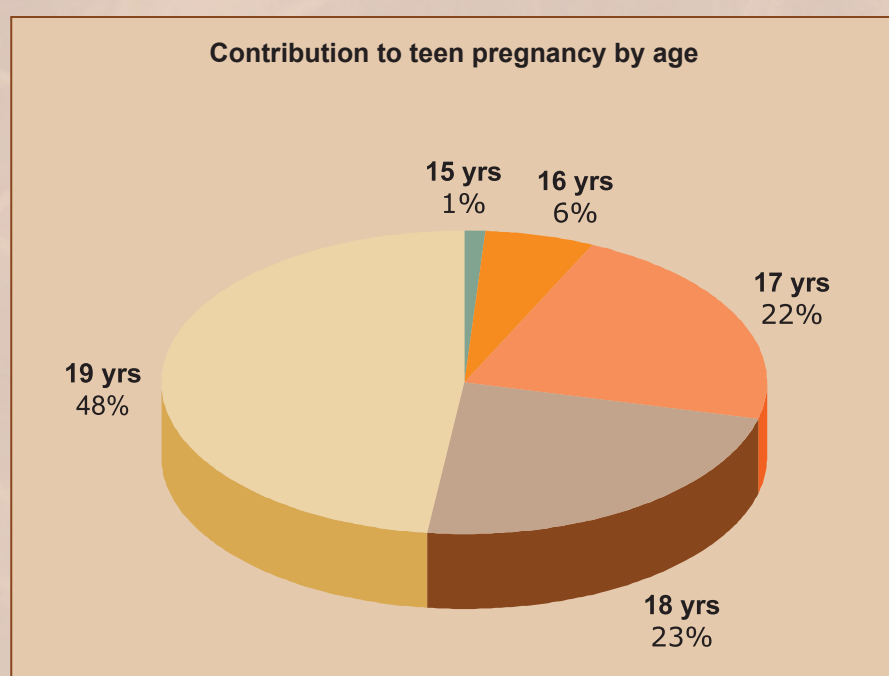
Source: South African Demographic and Health Survey, 1998

Age

National and international data show that fertility increases with age. In the US it is estimated that 822,000 pregnancies occurred in the 15–19 year age group in 2000; of these approximately two thirds were among 18–19 year olds (The Alan Guttmacher Institute, 2004). Studies conducted in Africa also confirm this relationship. For example, teenage pregnancy rates in Kenya double from 17% at ages 15-16 to 34% at ages 17-18 (Were, 2007).

As shown in Table 2, fertility in SA rises from a low of 2% among 15 year olds and peaks at 30.2% among 19 year olds (DOH, MRC & Measure DHS, 2002). Data from the 2003 RHRU survey also shows that teenagers aged 17-19 account for 93% of teenage fertility (see figure 5 below) (Harrison, 2008b).

Figure 5: Pregnancy among 15-19 year olds by age, 2003



Source: Harrison, 2008b

This finding is in keeping with the proportional increase in sexual activity with age. While only 10.1% of adolescents aged 15 are sexually active, by 19 years of age, 60.6% are sexually active (Shisana *et al.*, 2005). Harrison (2008b) explains that the chance of falling pregnant increases with age. At the age of 15 the ratio of the number of girls reporting sexual activity to the number who fall pregnant is 13:1. This decreases to 7:1 at age 16 and to 3:1 from 17 years of age onwards. This may be related to increased levels of unprotected sex at older ages

Lower levels of induced and spontaneous abortion among older adolescents may also contribute to higher pregnancy rates in this group (Darroch *et al.*, 2001, Dryburgh, 2003). For example, data from France, Great Britain and Sweden show that the abortion ratio is substantially higher among adolescents aged 15-17 than that among those aged 18-19 (Darroch *et al.*, 2001). Scholars have also attributed the higher pregnancy rates among older adolescents' to biological and social changes. Biological changes such as physical maturity and higher hormone levels may result in greater sexual attractiveness and desire. Social changes include greater peer pressure to have sex, changes in perceived norms about sexual and contraceptive behaviours as well as greater freedom and independence that brings with it more sexual opportunities (Kirby, 2002).

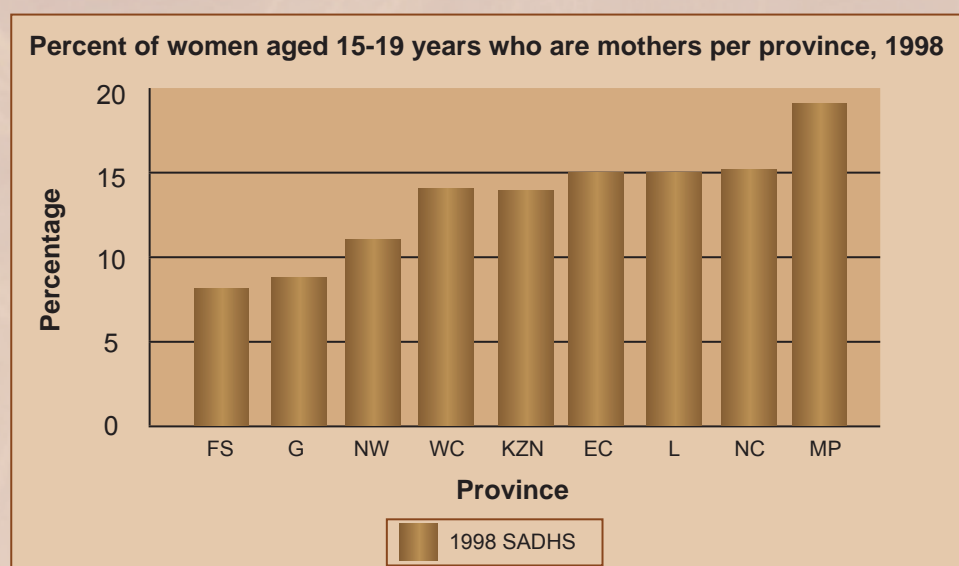
Location

Where young people reside confers significant risk for early pregnancy, STIS and HIV through a number of structural mechanisms – access to health services, concentration of poverty and unemployment and poor educational attainment. The contribution of these factors to early pregnancy is discussed in greater detail under the structural determinants of pregnancy.

Province

Free State, Gauteng and North West provinces had lower proportions of teenage fertility while Mpumalanga, Northern Cape, Limpopo and Eastern Cape reported high levels of early pregnancy (see Figure 6 below and Table 2 above).

Figure 6: Percentage of women aged 15-19 who are mothers per province, 1998



Source: South African Demographic and Health Survey, 1998

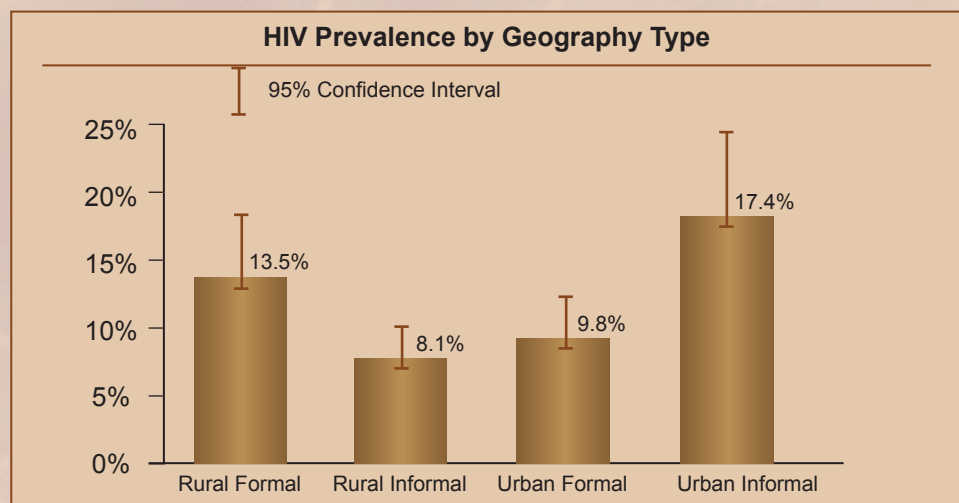
Urban-Rural

Overview of the World Fertility Surveys (WFS) and the DHS programmes indicate that fertility declines began in urban areas due to economic development, and increasing access to education and contraception, and later moved onto rural areas. However, few studies have conducted rural/urban comparisons of teenage pregnancy (Snyder, n.d.) and inconsistencies in how urban and rural areas are defined make interpretation and comparability difficult. The 1998 SADHS reported almost double the fertility rate among teenagers in rural settings (99 per 1000) than among those in urban settings (56 per 1000) (DOH, MRC & Measure DHS, 2002). The KZN Transitions to Adulthood study also reported higher rates of pregnancies in rural areas than in urban areas (Manzini, 2001).

Rapid urbanisation in SA has meant that a large percentage of the most disadvantaged sectors of society live in informal settlements on the fringes of urban areas. The most mobile sector of South African society is young people, migrating to urban centres in search of educational and work opportunities (Budlender, 2007). Over 15% (16.7%) of 15-24 year olds can be found in informal settlements (Harrison, 2008a; Stats SA, 2005). Figures increase to more than 30% in the urban hubs of Gauteng. Although the 1998 SADHS did not differentiate

pregnancy by urban informal areas, data from the 2003 RHRU survey is indicative of the concentration of risky sexual behaviour in informal settlements. HIV prevalence among young people living in urban informal areas is double that of other geotypes (see Figure 7 below). Given the common antecedents of HIV and pregnancy, further investigation of pregnancy rates in urban informal areas is warranted.

Figure 7: HIV prevalence by geography type among 15-24 year olds in South Africa, 2003

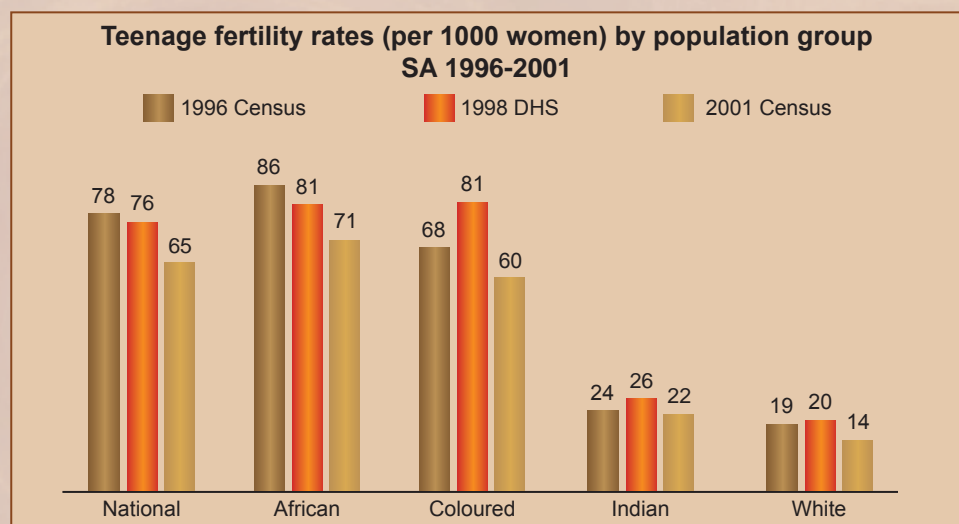


Source: Pettifor *et al.*, 2004

Population group

The South African history of racial classification accompanied by gross inequalities in access to education and economic opportunities as well as health services is reflected in the teenage fertility rates. The teenage fertility rates of White (14 per 1000) and Indian (22 per 1000) South Africans mirror that of developed countries, while higher rates are reported among Coloured (60 per 1000) and African (71 per 1000) teenagers for the year 2001 (Moultrie & McGrath, 2007). However, as shown in Figure 8 below, fertility among 15-19 year olds declined in all population groups between 1996 and 2001. The largest decline was registered among the White population (-29.8%), followed by African (-16.8%), Coloured (-12.7%) and Indian (-7.8%) teenagers (Moultrie & Dorrington, 2004).

Figure 8: Teenage fertility by population group, 1996-2001



Source: Moultrie & McGrath, 2007

Education

Increasing access to education among women has been identified as one of the main reasons for the systematic decline in fertility since the 1970s. One of the greatest achievements since democracy in SA is the massive expansion in access to education, especially in the enrolment of African youth and women. Access to primary schooling is universal (104%) and secondary school enrolment (80%) is high (Schindler, 2008). Data from the 1998 SADHS shows a strong inverse relationship between education and teenage fertility (DOH, MRC & Measure DHS, 2002). Teenage mothers are concentrated among those with only primary education (38.5%) but declines progressively among those with some secondary education (12.9%), matric (7.9%) and those with higher education (4.0%) (see Table 2).

Despite the protective effect that schooling exerts over sexual behaviour (girls in school are less likely to be sexually active than girls out of school and are more likely to use contraception (NRC & IOM, 2005), the risk of pregnancy during ages at which girls are attending school increases. Data from 28 demographic and health surveys showed that countries in which enrolment were high were more likely to report pregnancy as a reason for school dropout (NRC & IOM, 2005). The converse is true for countries reporting low enrolment; girls will not be in school during their reproductive years. This relationship is clear when enrolment is below 20% but a mixed effect is evident when enrolment increases above 50%, suggesting that schooling, depending on the context, can have a mediating effect on reproductive health behaviour (NRC & IOM, 2005).

The South African schooling system is characterised by both high enrolment and high rates of repetition, dropout, late entry and re-entry meaning that a significant number of older learners, well past the onset of puberty, can be found in lower grades (Schindler, 2008). As a result, the system has had to accommodate traditionally high rates of teenage fertility. Studies have reported that over a third of girls below 19 years of age who had an early pregnancy were attending school in 1993 (Maharaj, Kaufman & Richter, 2000). A similar trend was evident in KZN in 2001 (Hallman & Grant, 2003).

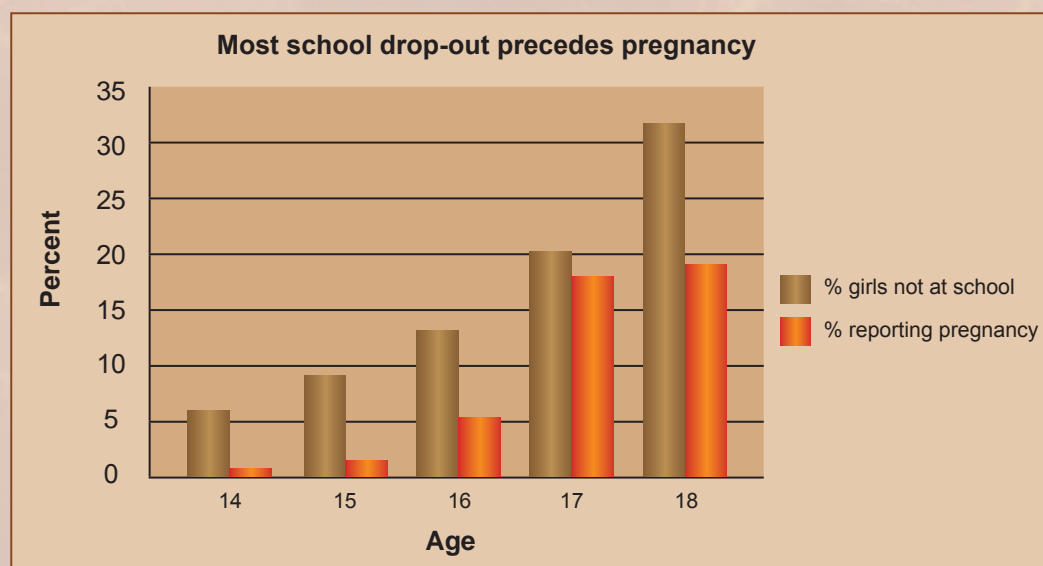
But the relationship that teenagers have with school can influence their sexual behaviour and as a result, early pregnancy. When teenagers feel a sense of attachment or connection to school and are successful at school, they are less likely to fall pregnant. School attachment, academic achievement and higher aspirations for education offer incentives to teenagers to avoid pregnancy (Kirby, 2002, Santelli, Lowry, Brener & Robin, 2000). On the other hand, when the relationship with schooling is tenuous, either through dislike of school (Imamura *et al.*, 2007), poor academic achievement (Cassell, 2002) or poor expectations of furthering education (Imamura *et al.*, 2007) girls are more likely to become pregnant.

While many studies report on pregnancy as the reason for school dropout, recent studies are contesting the direction of this relationship (Cassell, 2002). The KZN Transitions study reported that for males, the inability to pay school fees (31%) and the need to work (22%) were the main reason for dropout, while for females, pregnancy (39%) and the inability to pay school fees (30%) were cited as reasons for dropout (Rutenberg *et al.*, 2001). But the implicit assumption that girls who dropout of school because of pregnancy would have continued their education may not be valid (NRC & IOM, 2005). Pregnancy may be the endpoint most directly associated with dropout but is often not the cause. Pregnancy and school dropout in fact share many common social and economic antecedents (Lloyd & Mensch, 2008), the most significant of which are poverty and poor academic achievement (Cassell, 2002). Lloyd and Mensch (1999) contend that *“rather than pregnancy causing girls to drop out, the lack of social and economic opportunities for girls and women and the domestic demands placed on them coupled with the gender inequities of the education system, may result in unsatisfactory*

school experiences, poor academic performance, and acquiescence in or endorsement of early motherhood. Using the KZN Transitions data, Grant and Hallman (2006) showed that poor school performance is a strong marker of the increased likelihood of experiences a pregnancy while enrolled in school and of dropping out of school at the time of pregnancy. Poor school performance also limits the likelihood that girls who experience a pregnancy would ever return to school.

Although the timing of school dropout and pregnancy coincide for some girls, for the most, pregnancy follows school dropout (Imamura *et al.*, 2007) often due to poor academic performance resulting in a lost of interest in school (Manlove, 1998). In fact, Lloyd and Mensch (2008) demonstrated that the risk of leaving school due to childbearing and marriage has diminished significantly over time in Africa alluding to the protective effect that schooling exerts on the social outcomes of young people. A similar trajectory of increased risk of pregnancy following school dropout is evident in SA. Harrison (2008b) demonstrated the increasing risk of pregnancy amongst those who were no longer at school by combining Census data with the 2003 RHRU survey (see Figure 9). The analysis showed that pregnancy increased significantly among 17 and 18 year olds outside of the school system.

Figure 9: Increasing teenage pregnancy rates among those who are not at school



Source: Harrison, 2008b

Similar evidence is available from rural SA. The odds of being pregnant among 14-19 year old school girls in Bushbuckridge were one tenth that of girls who had left the schooling system (Hargreaves *et al.*, 2008). Dropping out of school not only increases risk for pregnancy, it also significantly increases risk for HIV. The 2003 RHRU survey showed that young women who did not complete their secondary school education were four times more likely to be HIV positive compared to those who had completed high school (Pettifor *et al.*, 2008). The study concluded that structural factors such as lack of education may play a more fundamental role in exacerbating risk for HIV, more so than individual level factors (Pettifor *et al.*, 2008).

While SA is able to retain learners during the compulsory years of schooling, dropout increases dramatically from grade 9 onwards, particularly for Coloured and Black learners (DOE, 2007b). In a context of pervasive poverty, economic barriers play a significant role in school dropout. But two important and related markers of a high risk of dropping out are grade repetition and higher age for grade. These factors are also concentrated

among Coloured and Black learners. Data from the Cape Area Panel Study showed that by age 16-17 years, 49 per cent of African males and 27 per cent of Coloured males were two or more years behind the appropriate grade for age compared to only 7 per cent of White males (Lam, Leibbrandt & Mlatsheni, 2008). Without a system of remediation to improve school performance, learners become disillusioned and disengaged from the school environment, increasing the risk of dropout. In addition, as learners mature biologically, other non-school related goals (such as earning an income, forming relationships and raising a family) overtake education as their sole focus (DOE, 2007b). In the absence of age or developmentally appropriate (rather than grade appropriate) life skills education on sexuality (Jewkes & Christofides, 2008), the risk of early pregnancy is heightened.

While a liberal school policy on teenage pregnancy has mitigated some of the consequences of early childbearing in SA, not all teen mothers remain in school or return to school. This may stem from uneven implementation of the school policy resulting in suspension or expulsion of pregnant teens, poor academic performance prior to pregnancy, few child-caring alternatives, poor support from families, peers and the school environment and the social stigma of being a teenage mother (Cassell, 2002). The KZN Transitions study reported that 74% of girls aged 14-19 years dropped out of school at the time of pregnancy and only 29% returned to school following pregnancy-related dropout (Grant & Hallman, 2006). What is more, for every year that passes after pregnancy-related school dropout, young women are significantly less likely to return to school (Grant & Hallman, 2006). The odds of returning to school among 14-24 year olds declines significantly by 60% two years post-dropout, by 70% three years post-dropout, and by 80% four years post-dropout.

Instituting strategies to retain learners in school by addressing both financial and school performance reasons, as well as ensuring early return post-pregnancy, may be the most effective contributions that the education system can make to prevent and mitigate the impact of early pregnancy. When learners do dropout of school, concerted effort is required to re-enrol them in school or in alternative systems of education.

Secondary analysis

EMIS data

Using EMIS data for 2004-2008, the number of pregnant learners per 1000 registered learners was estimated. For example, in 2004, the Education Department registered 51 pregnancies for every 1000 female learners. The table shows that there was a steady increase in the proportion of learners who had become pregnant during the period. It is not clear whether this represents a real increase in teenage pregnancy, or an improvement in the reporting process. While most national surveys have reported a decline in teenage fertility during the period, it should be noted that termination of pregnancy by all South African women increased during the period. According to Department of Health records, over 70 000 termination of pregnancies were reported in South African public health facilities during the year 2003, representing a 200% increase in terminations since 1997 (Makiwane, 2009). About 30% of terminations were among women aged 15 to 19. It is therefore possible that the national decline in teenage fertility may be in part accounted for by an increase in termination of pregnancy rather than a decline in teenage pregnancy. However, this would need to be confirmed empirically. It is not known, though, if the pregnancy statistics reported in the EMIS data includes pregnancies that were terminated. Our assessment of the EMIS data is that it most likely approximates fertility (that is live births) as pregnancies are more likely to be reported/discovered late into the gestation period, well past the period for safe termination.

Table 4: Learner pregnancy rates, 2004-2008

Year	Number of pregnant learners/ 1000 registered	Number of learners captured
2004	51.42	8058
2005	55.69	9691
2006	56.34	9031
2007	59.51	16336
2008	62.81	16320
Total	58.22	59436

The table below provides a provincial breakdown of the number of pregnancies per 1000 learners. A consistent pattern of high pregnancy rates are reported for provinces that are poor and mostly rural (Eastern Cape, KwaZulu-Natal and Limpopo), and a reverse is evident for the most affluent and urban provinces (Gauteng and Western Cape). This contrast is more distinct than the teenage fertility data reported in the 1998 SADHS.

Table 5: Learner pregnancy rates per province, 2004-2008

Province	Number of pregnant learners/ 1000 registered	Number of learners captured
Eastern Cape	68.81	11852
Free State	53.64	2837
Gauteng	34.15	4866
KwaZulu-Natal	62.24	15027
Limpopo	60.36	12848
Mpumalanga	55.70	5015
Northern Cape	59.37	1070
North West	55.89	3211
Western Cape	34.40	2710
Total	58.22	59436

In the following section, learner pregnancy rates are disaggregated by selected variables that characterise the school environment. As stated above, EMIS data records are incomplete. The table below shows the extent of missing data for the selected factors. As a result of the incompleteness of data, the analysis below must be read with caution.

Table 6: Selected variables and the proportion of missing data

Selected characteristics of the school	Proportion missing data
Institutional phase	21.3
School specialisation	20.1
Land ownership	21.4
School fees	61.8

As a census of pregnancies in all schools was not done, a single estimate of the number of pregnancies recorded for every 1000 female learners cannot be provided. Because the analysis outlined below is applicable to a sample of schools, the single value estimate of learner pregnancies is supported by a wider interval that is

likely to include the 'true' estimate. This is referred to in the table as the 95% Confidence Interval for the Mean. For example, the estimated level of pregnancies for primary schools is 57.42 (55.39-59.45); for intermediate schools the estimate is 56.41 (54.06-58.75) and for combined schools the estimate is 78.13 (76.71-79.54). As the confidence interval of primary and intermediate schools overlap, we make the conclusion that there are no significant differences in the mean number of pregnancies between primary and intermediate schools. On the other hand, as the confidence interval for combined schools does not overlap with the confidence interval for either primary or intermediate schools, we are 95% confident that combined schools have higher learner pregnancy rates.

Institutional phase

Most schools in SA are exclusively primary schools (grade 1 to grade 7) or secondary schools (grade 8 to grade 12). A minority of schools, however, combine both primary and secondary grades, and are known as combined schools. The analysis below shows differences in pregnancy rates according to these classifications.

Table 7: Distribution of learner pregnancy by institutional phase

Institutional phase	N	Mean	95% Confidence Interval for Mean	
			Lower Bound	Upper Bound
Primary	4290	57.42	55.39	59.45
Intermediate	2349	56.41	54.06	58.75
Combined	9349	78.13	76.71	79.54
Secondary	30554	51.94	51.38	52.49
Total	46547	57.92	57.40	58.44

The table above shows that pregnancy rates do not differ significantly between learners in either primary, intermediate or secondary schools. The major difference is found in combined schools, where the pregnancy rate tends to be significantly higher than in other schools.

School specialisation

The second attribute used to differentiate pregnancy rates was based on the level of specialisation of the school. Ordinary schools provide academic programmes; 'comprehensive' schools provide both academic and vocational training; and 'specialised' schools cater for learners with some form of disability.

Table 8: Distribution of learner pregnancy by level of specialisation

Level of Specialisation	N	Mean	95% Confidence Interval for Mean	
			Lower Bound	Upper Bound
Ordinary	37766	60.23	59.64	60.82
Comprehensive	4241	55.78	54.05	57.50
Specialized	2362	43.90	42.10	45.69
Total	44369	58.93	58.39	59.47

Learners in specialized schools are least likely to experience an early pregnancy compared to those who are in ordinary or comprehensive schools.

School fees

Table 9: Distribution of learner pregnancy by school fees

School Fees	N	Mean	95% Confidence Interval for Mean	
			Lower Bound	Upper Bound
No Fee School	13529	62.52	61.48	63.55
User fee School	9046	48.56	47.55	49.58
Total	22575	56.92	56.18	57.67

The above table disaggregates schools according to whether they are a fee or a no fee school. Generally, schools that are situated in poorer socio-economic neighbourhoods have been proclaimed in SA as no fee schools. The above table shows that schools in poor neighbourhoods have a higher pregnancy rate than those in more affluent areas.

Land ownership

Table 10: Distribution of learner pregnancy by school land ownership

Land Ownership	N	Mean	95% Confidence Interval for Mean	
			Lower Bound	Upper Bound
Public ownership	23093	53.86	53.13	54.58
Independent ownership	920	69.72	65.22	74.22
Total	24013	54.46	53.74	55.18

Learners in schools that have land that is publicly owned have a lower chance of experiencing an early pregnancy than those in schools that have land privately owned. Schools on independently owned land are most likely to be farm schools. Higher pregnancy rates in these schools may be a reflection of higher levels of poverty in these areas.

The above analysis shows that pregnancy rates in schools vary significantly according to the school characteristics identified above. However, as indicated earlier, results must be read with caution due to the high proportion of missing data. An indicator of *no fee schools* was used as a marker of the socio-economic status of the neighbourhood. Specifically, no fee schools are located in poor neighbourhoods and these schools tended to report higher pregnancy rates. This finding concurs with the secondary analysis conducted on the HSRC 2003 Status of the Youth Survey confirming a link between poverty and risk for early pregnancy. In addition, the determinants section outlines the extent to which community factors such as poverty and low socio-economic status increase the risk for early pregnancy.

The second set of findings is more interesting. The results outlined above show that learners from combined schools have higher pregnancy rates. Combined schools have learners who have a vast difference in age. This condition is thought to skew power relations among learners, and likely to result in higher pregnancy rates. Girls who engage in sex with older partners are more likely to become pregnant (Kirby, 2007). A big gap in age in the same institution is associated with conditions that give rise to higher pregnancy rates.

Provincial data

Meaningful analysis of pregnancy rates reported at provincial level was not possible due to the following reasons:

- Some provincial reports only provide number of pregnancies without enrolment rates. These figures are thus unusable, as number of pregnancies can only be analysed against the background of the number of women who were at risk of experiencing a pregnancy.
- The fertility rates fluctuate widely from one year to another. The general trend is that the number of pregnancies reported increases with time. All indications are that this is due to the improvement in the reporting mechanism rather than an escalation in learner pregnancy. Firstly, the earlier pregnancy rates suggested from school records are considerable lower than those reported in national surveys. Secondly, all national surveys have been reporting a decline in pregnancy rates during this period.
- The level of missing information significantly compromises meaningful analyses. In addition, the level of missing information varies between provinces. The impression is that the fidelity with which vital statistics are collected at provincial level varies greatly.

Suggestions for improving data collection

A revision in the choice of data collected is strongly suggested. The following variables would allow for meaningful differentiation of pregnancy rates at the school and community level:

- Variables related to the nature of the school: failure rate, school dropout rates, learner-teacher ratio etc.
- Characteristics of the school neighbourhood: school fee structure, urban-rural status, formal-informal environment, historical racial categorisation.
- Variables that locate schools within Statistics South Africa enumeration areas would allow a link between the school and other variables found in national data sets.
- In order to assess the effectiveness of the school policy that allows mothers/fathers to return to school post-pregnancy, data is also required on number of girls/boys who dropout of school because of pregnancy, educational attainment of pregnant teens, number who return post-pregnancy, number of teen parents who complete secondary schooling, academic performance of teen parents etc.

Abortion

Restrictive laws and policies concerning abortion, particularly in developing countries, have resulted in many unwanted pregnancies and an escalation in obstetric complications and maternal deaths due to botched 'backstreet' procedures (WHO, 2004). Unsafe abortions pose a significant risk to the health of young women in developing countries (NRC & IOM, 2005). Every year, between 2.2-4 million unsafe abortions are undertaken by adolescents in developing countries (UNFPA, 2007). While abortion on request is legally available in the US and UK and other developed countries, in Africa and in many developing countries abortion is still illegal and fraught with taboos and negative social perceptions. SA is one of a few countries in Africa where abortion is available on request in the first trimester. Other countries are Mozambique (although with restrictions), Cape Verde, Ethiopia and Tunisia (IPAS, 2009).

Prior to 1996, illegal abortions were common in SA and the majority of these were undertaken in the Black communities (Morrone, Myer & Tibazarwa, 2006). A study conducted in 1994 reported that of 44 868 women attending public hospitals with incomplete abortion, at least a third presented with signs and symptoms of unsafe procedures (Rees *et al.*, 1997). These findings, together with a commitment to promote the reproductive rights of women motivated the passing of The Choice of Termination of Pregnancy (TOP) Act in SA in 1996. The Act permits woman of any age to terminate a pregnancy during the first 12 weeks of gestation without the consent of her partner, under restrictions between 13-20 weeks and under special circumstances beyond 20 weeks. Minors (women aged less than 18) can terminate pregnancies without the consent of parents. Termination of pregnancy services are conducted at designated facilities, can be conducted by midwives and registered nurses and are available free of charge.

Despite legalizing abortion in 1996, statistics on abortions in SA are still difficult to obtain. Three years after enacting legislation the health system was providing 40 000 legal terminations each year (Reproductive Rights Alliance, 1999). By 2003, this had increased to about 70 000 per year (Makiwane, 2009). Since the introduction of the TOP legislation in 1997 about 529 410 women have had safe and legal abortions in South Africa (IPAS, 2009). This is compared to about 800-1000 legal abortions conducted annually in *Apartheid* SA, mainly granted to White women (Anon, 1991). In 1999, only 292 facilities or less than three percent of public health facilities were designated to provide abortion services, and only a third was actually providing services (Dickson *et al.*, 2003). By 2007/8, 70% of hospitals approved to provide TOP were actually providing services (DOH, 2008a).

Survey data on termination of pregnancy among young women indicate that a very small percentage make use of these services (3%) even though two thirds of pregnancies are unwanted (Pettifor *et al.*, 2005). This is in contrast to data from the Department of Health that shows that 30% of abortions conducted in 2003 were for women aged 15-19 (Makiwane, 2009). Qualitative research indicates that abortion is common among school girls and university students, although legal termination is seldom a consideration (Kaufman, de Wet & Stadler, 2001; Varga, 2002). In fact, a case control study among pregnant adolescents in Cape Town reported that over a third (34.1%) had considered termination of pregnancy (Jewkes, Vundule, Maforah & Jordaan, 2001).

Barriers to legal abortion

Although abortion is recognised as morally and religiously objectionable, young women in SA apply a 'relative morality' to justify decisions about abortion (Varga, 2002). Stigma about abortion is tempered by the context in which girls find themselves. To circumvent the social and financial hardships associated with unplanned pregnancies and to protect educational opportunities, young women consider it a viable option. Yet two qualitative studies have suggested that legal termination may not be an option (Kaufman *et al.*, 2001; Varga, 2002). Young people, particularly in rural areas have poor knowledge about the legality and cost of abortion services. The 1998 SADHS showed that knowledge about the TOP Act was low among teenagers (40.1%), and particularly, among uneducated women and women living in rural areas (DOH, MRC & Measure DHS, 2002). Focus group discussions conducted among adolescents in rural Limpopo province also reported low levels of knowledge about TOP (Ratlabala, Makofane & Jali, 2007). Although a more recent clinic-based study in KZN showed that knowledge levels had improved generally among women since the 1998 SADHS, a third of women were not aware of the legislation (Morrone *et al.*, 2006). Furthermore, of those who were aware of the legislation about half were not aware of the time restriction for legally terminating a pregnancy. Due to a lack of support and information about the Act, many young women only seek abortion late into their pregnancy (NRC & IOM, 2005), forcing them to resort to illegal means.

The double stigma of an early pregnancy and termination also serves as a deterrent for young women to seek abortion at a clinic or hospital (Varga, 2002). This is compounded by the negative attitude of health staff both towards early pregnancy and termination (Jewkes *et al.*, 2005). Adolescents in Limpopo province also commented on the 'harsh treatment that pregnant adolescents receive from health providers' and the lack of confidentiality in local clinics and hospitals (Ratlabala *et al.*, 2007). Termination of pregnancy is seldom an individual decision. Mothers or older females in the family play a significant role in deciding about termination often motivated by the need to protect the good name of the family (Varga, 2002). Partners also influence the decision based on their own concerns for school disruption and financial reasons. However, one of the most critical factors that determine if an early pregnancy will be aborted in the Black community is the acceptance or rejection of paternity (Varga, 2002). Acceptance of paternity means financial support, as well as social and cultural connection for the child. Rejection, on the other hand, compromises a girl and her families' moral standing in the community. In the latter case, abortion, albeit illegal, becomes a real option.

Although studies have reported on the positive impact that the legislation has had on abortion-related morbidity and mortality in SA (Jewkes & Rees, 2005; Jewkes *et al.*, 2005), much more needs to be done to make services accessible and acceptable to young people. In the most basic form, young people and important decision makers in their lives – older women and young men, in particular, lack basic information about the Act and its specifications. Although value clarification among health workers did precede the introduction of the Act, ensuring that TOP is available as part of the Adolescent Friendly Clinics Initiative (NAFCI) will assist young people in viewing legal termination as a viable option.

Consequences of Early Childbearing

While a number of studies in the US have commented on the consequences of early childbearing on the life course of adolescents, few studies have been conducted in sub-Saharan Africa. Yet the outcome of teenage pregnancy can be vastly different depending on the context (Falk, Ostlund, Magnuson, Schollin, & Nilsson, 2006) because of the inextricable link between poverty and childbearing. Poverty is now recognised as both a cause and consequence of early childbearing (Kirby, 2007). Earlier research may have overestimated the consequences of early childbearing because of the assumption that poverty and socio-economic disruption were a consequence of teenage pregnancy (Kirby, 2007). But the wealth of research demonstrating association and causality between socio-economic disadvantage and pregnancy makes it difficult to attribute negative life events to early pregnancy alone as opposed to pre-existing disadvantage. This is particularly the case in sub-Saharan African countries that experience inordinate levels of poverty (Hoffman, 2006; NRC, & IOM, 2005). However, the general consensus is that since teenage pregnancy is mostly unplanned (Cassel, 2002; Pettifor *et al.*, 2004), and often coincides with other transitions such as schooling it can result in negative consequences for the teenage mother and more especially for the child (Ashcraft and Lang, 2002; Kirby, 2007; Finer & Henshaw, 2006).

Table 11 summarise the health and socio-economic consequences of teenage pregnancy.

Table 11: Consequences of early childbearing

<p>Health consequences</p> <ul style="list-style-type: none"> • Elevated risks of maternal death • Elevated risk of obstetrics complications • Low birth weight • High risk of infant mortality 	<p>Economic consequences</p> <ul style="list-style-type: none"> • Lower family income • Increased dependency ratio • Exacerbated poverty • Children most likely to be poor
<p>Educational consequences</p> <ul style="list-style-type: none"> • School dropout • School absenteeism • Poor academic performance • Lower educational attainment • Poorer cognitive development of children • Poorer educational outcomes for children 	<p>Social consequences</p> <ul style="list-style-type: none"> • Stigma and discrimination • Less likely to be married • Most likely to suffer abuse • Less supportive & stimulating home environment for children • Increased behaviour problems among children • Higher rates of imprisonment among sons • Children more likely to give birth as teens

Source: Breheny & Stephens, 2007; Hoffman, 2006; Kirby, 2007

Health consequences

There is conflicting evidence on the health risks associated with teenage pregnancy. While some studies suggest that pregnancy before 20 carries more health risks than pregnancies at older ages, others suggest that the greatest risk are for those at younger ages, if any at all (NRC & IOM, 2005). Risks associated with physiological immaturity include cephalo-pelvic disproportion, toxemia, hypertension and vagio-rectal or urethral fistulae and placental abruption (Blum, 2007; Blum & Nelson-Mmari, 2004). Estimates provided by UNFPA (2007) indicates that the risk of death after pregnancy for women aged 15-19 is twice that of those

aged 20-24. Annually up to 70 000 15-19 year old girls worldwide die due to pregnancy and childbirth-related complications (UNFPA, 2007). The health consequences of early pregnancy are 600 times higher in sub-Saharan Africa than in developed countries (Blum, 2007). Studies conducted in SA in the eighties and nineties reported similar health consequences for early childbearing (Gallais, 1996; Goldberg & Craig, 1983).

Much of the health risks associated with early motherhood can be prevented through timely and good quality antenatal care. The health outcomes of pregnancy are worse for women aged 15-19 because of three main reasons (UNFPA, 2007):

- 1) Young women may not know when and where to seek help and may not have the financial resources or the necessary family support;
- 2) Adolescent girls may only initiate antenatal care at a later stage than those who planned their pregnancies; and
- 3) The quality of health services available to pregnant teenagers may not be optimal.

Even though teen pregnancy is common among Coloured and Black adolescents in SA, it is still highly stigmatized. Young women refer to the trauma that they experience when they realise that they are pregnant and the difficulty they face in deciding who to tell and what to do, as well as the negative response they receive from family and friends (Kaufman *et al.*, 2001; Varga, 2003). Antenatal care has been available to pregnant women without charge since 1994. Yet the embarrassment and discrimination that young women face within the health care system is a deterrent to seeking care early in their pregnancy (Kaufman *et al.*, 2001; Varga, 2002).

The research findings on adverse health outcomes of children born to teenage mothers are more definitive (NRC & IOM, 2005). International studies indicate that children of teen mothers are more likely to experience health problems compared to children of older mothers (Shaw *et al.*, 2006). Low birth weight is associated with negative outcomes later in life such as cognitive and physical disabilities and lower educational attainment (De Villiers, 2004). Studies in the US (Botting, Rosato & Wood, 1998; National Campaign To Prevent Teen Pregnancy, 2002) and UK (Pevalin, 2003) report lower birth weight among infants born to teen mothers. South African studies also support this claim (Cameron, Richter, McIntyre, Dlamini & Garstang, 1996). Low birth weight is a significant risk factor for infant mortality. In fact, low birth weight is the number two killer among South African children under five, second only to HIV and AIDS (Bradshaw, Bourne & Nannan, 2003). Breast feeding is crucial for the early development of a baby. Studies conducted in the US have indicated that women with mistimed and unwanted pregnancies are less likely to breastfeed (Chandra *et al.*, 2005; Dye *et al.*, 1997). In addition, children of teen mothers are more likely to be malnourished and suffer from developmental problems (UNFPA, 2007).

Child mortality is a critical indicator of the health and state of development of a population. Although SA is economically developed compared to other African states, its child mortality is increasing. In 1990 the under-5 mortality was 60 per 1000 live births; by 2000 this had increased to 95 per 1000 live births (Bradshaw, Bourne & Nannan, 2003). No doubt HIV and AIDS is a critical determinant of increasing infant and child mortality but nevertheless early childbearing is an important contributor to both infant and child mortality (UNFPA, 2007).

Educational and economic consequences

South Africa has one of the highest literacy levels exceeding many other countries in sub-Saharan Africa. In a knowledge-based economy, education is essential to secure future employment. Teenage pregnancy can have a profound impact on young mothers and their children by placing limits on their educational achievement and economic stability and predisposing them to single parenthood and marital instability in the future (Ashcraft and Lang, 2006; National Campaign to Prevent Teen Pregnancy, 2002; Olausson, Haglund, Weitloft & Cnattingius, 2001). '*The price of adolescent pregnancy is lost potential*' (UNFPA, 2007) because teenagers become mothers without the necessary knowledge, skills, resources, and networks to cope with the demands of parenthood.

The impact of teenage pregnancies on educational achievement and economic progress later in life remains negative and significant even after controlling for other social factors such as coming from a disadvantaged background (Klepinger, Lundberg & Plotnick, 1995). Teenage mothers tend to have fewer years of education compared to those who have their first child after 20 years of age (Berglas, Brindis & Cohen, 2003; Fergusson and Woodard, 2000; Klepinger *et al.*, 1995). Fergusson and Woodward (2000) postulate that the impact of teenage pregnancy on young women's educational achievement is driven by the timing of the pregnancy and the manner in which the young woman and her family respond to the pregnancy. Despite the progressive legislation in SA allowing young women to return to school post-pregnancy only around a third actually re-enter the schooling system (Grant & Hallman, 2006). Data is not available in SA on the number of teen mothers who go on to complete school or on their academic achievement.

Early childbearing requires strong familial support for girls to return to school. Studies in the US have shown that child-rearing, lack of parental support and lack of support from peers, all contribute to high dropout rates (Cassell, 2002). In fact Grant and Hallman (2006) have shown that the availability of an adult caregiver in the home was a strong determinant of whether girls in SA would return to school post-pregnancy. When girls were solely responsible for childcare they were less likely to return to school. Qualitative research indicates that some families enable girls to return to school to protect their educational opportunities, but for others, new familial responsibilities limit such possibilities (Kaufman *et al.*, 2001).

Ultimately due to larger families and low education, the labour force earnings of mothers who are teens or who had an early teenage pregnancy are not satisfactory (Berglas *et al.* 2003; Hoffman, 2006). Thus young mothers are barred by a lack of education and inexperience from earning a sound living (Bissell, 2000). The disruption that pregnancy inflicts on the educational and occupational outcomes of young mothers both maintains and exacerbates poverty. Research conducted in US indicates that more than a quarter of teen mothers live in poverty well into their twenties compared to seven percent of their peers who delayed childbearing (Darroch and Singh, 1999). Early childbearing may not necessarily lead to poverty, but it certainly can worsen the economic situation of young women (Cassell, 2002; Shaw *et al.*, 2006).

As a result of the lower earning capacity of teen mothers, they are more likely than their peers to receive child welfare for a longer period (National Campaign to Prevent Teen Pregnancy, 2002). Ironically, despite the availability of the child support grant in SA and assertions that young women are falling pregnant to receive the grant, in 2005, only 2.69% of grant recipients were mothers between the age of 15 and 19 years (Makiwane, Desmond, Richter & Udjo, 2006).

Social consequences

The age old practice of sending pregnant girls away to live with relatives has been replaced by pregnant girls remaining in their homes, choosing to raise their children and continuing to attend school (Wiemann, Rickert, Berenson & Volk, 2005). Adolescents who become pregnant are therefore highly visible in the community, in school and to families (Wiemann *et al.*, 2005), often erroneously leading to the conclusion that teen pregnancy is increasing. But increased visibility also means increased stigma. Because of the relation of teen pregnancy, contraceptive use, HIV and STIs to sexuality, it will forever remain bounded with morality and stigma. Stigma during or after pregnancy can lead to depression, social exclusion, low self esteem and poor academic performance affecting the prospects of employment in the future (Abe & Zane, 1990).

Despite the normalisation of teen pregnancy in Black and Coloured communities in SA, in part related to high prevalence and to some extent cultural acceptance previously, early childbearing is highly stigmatized. Girls report the trauma, fear, shame, and embarrassment of having to reveal an early pregnancy to family, partners and peers. In studying third generation pregnancies in the Birth to Twenty longitudinal cohort in Soweto, Richter, Norris and Ginsburg (2006) commented on the '*silence of fear and shame*' that lock families into inaction in both preventing pregnancy and accessing healthcare services once girls become pregnant. Even though girls are legally allowed to attend school during and after pregnancy in SA, they are often confronted by the stigma of teachers and peers in the school environment (Varga, 2003).

Teenage pregnancy also affects the marriage prospects of young women. Studies carried out in the US have reported that teen mothers are more likely to be single parents and if married to experience high divorce rates (Ashcraft and Lang, 2006; National Campaign to Prevent Teen Pregnancy, 2002; UNFPA, 2007). Premarital fertility is high in SA and in the Black and Coloured communities, it does not necessarily lead to marriage. However, acknowledgement of paternity is critical to reduce stigma of early pregnancy and for the child to receive social and financial support from the father. Ironically, women report that young fathers often deny paternity to protect their own educational and financial aspirations. (Varga, 2003). This is in contrast to more recent studies among young men, who report high levels of responsibility for children and that few deny paternity (Swartz & Bhana, 2009).

Women who begin childbearing in their teen years are at increased risk of having more children over a short space of time. In the US, twenty five percent of teen mothers have another child within two years of the first child (National Campaign to Prevent Teen Pregnancy, 2002). SA deviates from this norm. Although age at first birth is low in SA, women significantly delay second birth. Using data from the Agincourt surveillance system Garenne, Tollman and Kahn (2000) showed a bimodal pattern of fertility among young women, with a first peak in the teenage years and a second in the mid-to late 20s. Studies have also reported much higher contraceptive use among those teenagers who have had an early pregnancy. MacPhail and colleagues (2007) reported that pregnancy was a significant determinant of contraceptive use among women aged 15-24 years in SA. Qualitative research indicates that educational aspirations are a significant reason why young women delay second birth (Kaufman *et al.*, 2001) in SA.

Teenage pregnancy has also been associated with domestic violence and family disruptions (Kissin *et al.*, 2008). Studies from sub-Saharan Africa, US and Europe have indicated that teenage mothers face a high frequency of physical abuse (UNFPA, 2007). Teenage pregnancy feeds into existing gender imbalances by rendering the young mother more economically vulnerable and reliant on male partners, thus exposing them to negative trajectories (UNFPA, 2007). Given the almost endemic levels of sexual and physical violence in

intimate partner relationships in SA - both risk factors for early pregnancy (Jewkes *et al.*, 2001), such negative trajectories are likely to exist among young mothers.

The most negative and costly outcomes of teenage pregnancy are intergenerational (Kirby, 2007). Children of teenage mothers are more likely to drop out of school, obtain lower grade point averages and report poorer school attendance records (Cassell, 2002; Kirby, 2007). Research from the National Study on Family Growth (2002) indicates that the characteristics of the adolescent mother have an impact on the timing of first birth of their children. For teenagers whose mother had an adolescent birth, 32% had given birth by the age of 20 compared to 11% of those whose mothers delayed child bearing beyond 20 years of age. In this way the intergenerational transmission of poverty is perpetuated between mothers and daughters (Botting *et al.*, 1998; Cassell, 2002; Kiernan, 1995). For sons, teenage motherhood increases the risk of behaviour problems and, particularly, for imprisonment (Hoffman, 2006).

Determinants

Conceptual framework

There is a substantial body of literature about the varied, inter-related and complex interplay of factors that determine sexual behaviour and that result in pregnancy, STIs and HIV (Dogan-Ates & Carrion-Basham, 2007; Kirby, 1997; Meade & Ickovics, 2005). Sexuality among teenagers, often characterised as, and associated with deviance, is in fact a healthy, normative part of the natural course of development of *all* adolescents. As such, at some stage of their life, nearly all teenagers experience some pressure to have sex, whether internally or externally driven, and may be at risk of becoming pregnant (Kirby, 2002). However, some adolescents are placed at much higher risk than others based on the balance of risk and protective factors. As the number of risk factors increase and the number of protective factors decrease in a teenager's life, the probability of engaging in unprotected sex and becoming pregnant increases.

Over half a century of investment in public health research has demonstrated that health behaviour is seldom the result of single, individually attributable factors. Although a number of behavioural theories (such as Health Belief Model (Rosenstock, 1974), Theory of Planned Behaviour (Ajzen & Fishbein, 1980), Social Cognitive Theory (Bandura, 1986), have been helpful in identifying individual cognitions that influence sexual behaviour, they have not resulted in substantive and sustained behaviour change. Contemporary health promotion has undergone a paradigm shift from a singular focus on health education for individuals to changing institutional behaviour, influencing physical and social environments and advocating for enabling and supportive policy (National Cancer Institute, 2005). Such an *ecological approach* recognises the multiple spheres of influence on health behaviour and emanates from the seminal work of Bronfenbrenner (1979) that contextualised individual behaviour within the families, communities and societies in which they are nested.

Some of these influences are more direct or *proximal* (such as perception of risk, knowledge, attitudes, beliefs, subjective norms, self-efficacy and intention). Yet others are indirect or *distal* (such as poverty, and socio-economic status), mediated by more proximal factors but nonetheless powerful determinants of behaviour. The approach also recognises that behaviour takes place in a dynamic social context. Individuals are seldom passive recipients of external influence from the social environment. Termed, *reciprocal causation*, the ecological perspective asserts that social environments are as much shaped by individual behaviour as individual behaviour is shaped by the social environment and that the context in which behaviour takes place is constantly evolving (National Cancer Institute, 2005).

While a range of factors that influence risky sexual behaviour have been identified, the weight that can be assigned to any single factor (Kirby, 2002) or how factors interact or act cumulatively to increase risk is not fully understood (Meade & Ickovics, 2005). Behaviour change programmes have shown successes in small, localised contexts but what is not clear is how to achieve radical behaviour change among sufficiently large numbers of people at risk, in changing contexts and over time, to drive down the rate of unprotected sex (Coates, Richter & Caceres, 2008), and as a result, teenage pregnancy, STIs and HIV.

The ecological systems model provides a useful way to organise factors associated with complex social problems such as teenage pregnancy (Cocoran, 1999). The conceptual framework used in this study adopts a multi-level approach to account for the complex web of personal, social, economic and cultural forces that influence the life trajectory of adolescent and subsequently, their behaviour (Cassell, 2002). Five levels of influence are considered: (1) intrapersonal or individual factors; (2) interpersonal or relational factors; (3)

institutional or organisational factors; (4) structural factors; and (5) public policy (see Table 3).

Table 12: An ecological perspective: levels of influence

Concept	Definition
PROXIMAL FACTORS	
Intrapersonal level	Individual characteristics that influence behavior, such as knowledge, attitudes, beliefs and personality traits.
Interpersonal level	Interpersonal processes and primary groups, including family, friends, and peers that provide social identity, support and role definition.
Community level Institutional or organisational factors	Rules, regulation, policies and informal structures, which may constrain or promote recommended behaviors.
DISTAL FACTORS	
Structural factors	Socio-economic conditions and cultural context of the society that may enable or serve as a barrier to healthy behaviour
Public policy	Local and national laws that regulate or support healthy actions and practices for prevention, early detection, and treatment, care and support.

Source: Adapted from McLeroy *et al.*, 1988 in National Cancer Institute, 2005

Each level of influence can have an effect on sexual behaviour and, in turn, pregnancy. For example, a young woman delays accessing contraception even though she is sexually active. At the *individual level*, she may have incomplete knowledge about types of contraception and how to use them. At the *interpersonal level*, her partner may refuse to use contraception, labelling it a trust issue, her peers may not believe that it is important to use contraception and her parents may not have discussed contraception with her. At the *institutional level*, access to contraception may be difficult at public clinics because of the judgemental attitude of health staff. At the *structural level*, she may come from a poor socio-economic background where educational and financial aspirations are stunted and the only opportunity for upward mobility is through a relationship. At the *policy level*, lack of policy on youth friendly services or poor implementation therefore may affect her ability to access contraception.

Literature review

The following sub-sections explore each of the systemic levels in more detail, highlighting the key determinants of teenage pregnancy.

Intrapersonal factors

Individual or interpersonal factors are those attributes of an individual that increases his/her likelihood of engaging in risky behaviour by influencing how he/she interacts with the other contexts, and the influence that those contexts bring to bear on him/her (Bronfenbrenner, 1979).

Sexual behaviour

The sexual behaviour of adolescents has the potential to confer significant risk to adolescents experiencing early pregnancy and contracting STIs and HIV.

Sexual experience

When teenagers initiate their sexual life early on, they place themselves at increased risk for early pregnancy, STIs and HIV (Kirby, 2007). Early sexual debut remains an area of intractability in adolescent sexual behaviour in SA. Data from the 2003 RHRU survey shows that the median age at first sex among 15-24 year olds was 16 years for males and 17.0 years for females. The 2005 SABSMM survey reported that the median age of sexual debut for youth aged 15 to 24 years was 17 for both males and females. In fact, inter-age analysis from the 2005 SABSMM survey showed a trend towards earlier (rather than later) sexual debut among younger respondents than older respondents. Boys generally report earlier sexual debut than females and Black youth are more likely to begin sexual activity earlier than other groups.

High levels of sexual experience are also reported among youth and this has not shifted over time. Both the 2003 RHRU and the 2006 Kaiser/SABC surveys revealed that 67% of young South Africans had ever had sexual intercourse. Slightly lower percentages of youth (57.9%) aged 15-24 years reported ever having sex in the 2005 SABSMM survey. Rates were higher among females (62.3%) than among males (53.9%) and particularly, among Black (60.6%) and Coloured (52.3%) youth when compared to White (38.3%) and Indian (32.4%) youth. As is expected, the study also reported that sexual experience increased with age. While only 10.1% of 15 year olds reported being sexually active, by 19 years of age 60.6% were sexually active.

Sexual partnerships

Multiple sexual partnerships increase the risk of STIs and HIV (Kirby, 2007) and this remains an area of intractability, particularly among young men. Contrary to popular perceptions about the sexual promiscuity of young people, 25% of males and 45% of females aged 15-24 years reported one lifetime sexual partner in the 2003 RHRU survey. While the mean number of lifetime sexual partnerships was higher among males (4.9) than females (2.3), the difference between males (1.8) and females (1.1) in the mean number of sexual partners in the past 12 months was less pronounced. Females in this age group show a greater propensity to stick to one partner over the past 12 months (90.4%) and this trend has persisted since 2002. Males, however, report more frequent partner change and this confers significant risk for HIV. While three quarters (72.8%) of sexually active males reported one partner during this period, a third (27.2%) had more than one partners in the past 12 months. In fact, almost half of 15-19 year old men (45.2%) and almost a third (28.0%) of women in this age group reported more than one current sexual partnership.

Sexual frequency

The more frequently young people have sex, the greater the likelihood that they will become pregnant (Kirby, 2007). Jewkes *et al.*, (2001) showed that when young women have sex once a week or more they are at significantly increased risk of falling pregnant. Low levels of frequent sexual activity are reported among youth in SA and a significant proportion practise secondary abstinence. Almost half of young people in the 2002 and 2005 SABSMM surveys reported have sex 1-4 times in the past month and almost a quarter did not have sex in the past month. The 2003 RHRU survey also reported low levels of frequent sex amongst youth with over 90% of males and females reporting sex less than five times in the past month.

Age mixing

When young people have sex with partners older themselves they are at increased risk of engaging in sexual activity, not using contraception, contracting an STI and becoming pregnant (Kirby, 2007). The 2003 RHRU survey reported that for young men the average age of sexual partners was one year younger than themselves but for females, their partners were on average four years older. While almost all males (98%) aged 15-19 in the 2005 SABSMM survey reported that their partner was within five years of their age, 18.1% of females in this age group, reported a partner five years older than themselves. This latter trend conferred significant risk for HIV. The study showed that when young women's partners were within a five year age range, HIV prevalence was 17.2%. However, HIV prevalence almost doubled (29.5%) when partners were five years older than themselves.

Contraceptive use

Contraceptive use represents a significant area of progress among youth in SA and has been partly credited with the first signs of decline in HIV among youth and overall declines in teenage fertility. The 2003 RHRU survey reported that over half of sexually active women (52.2%) aged 15-24 years were currently using contraception. Two thirds (66.6%) reported using hormonal methods only, under a third (26.5%) used condoms only and under 10% (6.8%) used dual methods (condoms and hormones). Contraceptive use, particularly condom use, has increased significantly since the 1998 SADHS. The latter study reported that 28.5% of 15-19 year olds and 57.2% of 20-24 year olds used the pill (3.5%, 9.6%), an IUD (0.1%, 0.4%), injectables (22.9%, 42.5%) or condoms (2.0%, 3.5%) (DOH, MRC & Measure DHS, 2002).

Condom use has increased dramatically since the 1990s. The 1998 SADHS reported that only 7.6% of sexually active females aged 20-24 years used a condom at last sex. This increased to 47% in the 2002 SABSMM survey and to 55.7% by the 2005 SABSSM survey. Similarly, the 2003 RHRU survey showed that 52% of youth who reported ever having had sex had used a condom at last sex. The proportion had increased to 62% in the 2006 Kaiser/SABC survey.

While reports of condom use has increased for both males and females, rates of use are still almost 20 percentage points lower among females than among males. Rates among young men increased from 57.1% in 2002 SABSMM survey to 72.8% in 2005 SABSMM survey. Using the 2003 RHRU survey, Harrison (2008b) showed that condom use in fact peaks at a young age for women (16 years) but declines thereafter. Rates of condom use among men remain consistently high until about 21 years where after it declines.

While condom use has increased over time, low condom use during sexual debut and inconsistent condom use significantly increases the risk for unplanned pregnancy and HIV. Under half of young people (46%)

reported using a condom during sexual debut in the 2003 RHRU survey and only a third report always using a condom with their most recent partner.

Knowledge, beliefs and attitudes about contraception

Even though most pregnancies are unwanted in SA, over half of young people do little to prevent them. Over two thirds (66%) of young women who reported ever being pregnant in the 2006 Kaiser/SABC study, identified failure to use contraception as the main reason for pregnancy (see Figure 10). This by far outweighed other potential reasons including wanting to have a baby (28%), pregnancy as a proxy for fertility (8%) and pregnancy as a way of gaining respect (6%).

Figure 10: Reasons for teenage pregnancy among young women who have ever been pregnant



Source: Kaiser/SABC Survey, 2006

Although poor knowledge is often cited as a reason for ineffective or non-use of contraceptives (Arai, 2003, Bankole, Ahmed, Neema, Ouedraogo & Konyani, 2007), studies have shown that most young people are well-informed about modern methods of contraception. The 1998 SADHS reported almost universal knowledge of modern methods of contraception among unmarried sexually active women (99.2%) and similar high percentages of knowledge about the pill (96.4%) and condoms (94.3%). Slightly lower levels of knowledge (85.5%) about modern methods of contraception were reported among sexually inexperienced women in the study. Similarly, qualitative research among young mothers in Soweto reported that lack of education on sexuality and information on contraception could not be used as a legitimate reason for pregnancy as these were widely available (Kaufman *et al.*, 2001).

While adolescents have high levels of knowledge about contraceptive methods, gaps exist in the accuracy of their knowledge or skill regarding correct use of contraception (Conover & Chaudry, 2008; Abiodun & Balogun, 2008; Bankole *et al.*, 2007). Incorrect usage can lead to tears in condoms and missed doses of birth control pills can lead to ovulation. Because of poor education by health staff, girls in Limpopo province reported only using contraceptive pills when partners visited them, using half the number of pills to reduce weight gain or stopping contraceptive use altogether due to side effects such as amenorrhoea (Wood & Jewkes, 2006). These errors can decrease the effectiveness of the contraceptive method and increase chances of experiencing a pregnancy (Conover & Chaudry, 2008). But data from the 2003 RHRU survey has shown that when young

people feel confident about their ability to use condoms, they are more likely to use them (Hendriksen *et al.*, 2007). Sexuality education that reaches beyond awareness raising to improve accuracy and completeness of knowledge about contraception as well as condom use self-efficacy, can play a critical role in encouraging safe sexual behaviour.

Negative perceptions about contraceptives play a significant role in whether adolescents will use them. Such perceptions often arise from false beliefs about contraception such as a condoms could slip off during intercourse and be left inside a women's vagina (Jackson & Harrison, 1999; Tillotson & Maharaj, 2001; Wood & Jewkes, 2006), condoms reduce sexual enjoyment (Maharaj, 2006; Morojele, Brook & Kachieng, 2006), condoms are of poor quality (Temin *et al.*, 1999), and fear of the physical effects (weight gain or nausea) (Varga, 2003; Wood & Jewkes, 2006) and fertility-related side effects of contraceptive use (Varga 2003; Wood & Jewkes, 2006).

Qualitative research conducted among young people in Khutsong about condom use in the context of an HIV epidemic has identified a complex interplay of factors that determine its use (MacPhail & Campbell, 2001). At the *individual level*, most young people did not use condoms because they did not perceive themselves to be at risk of HIV infection. At a *relational level*, young men in particular, have internalised the frequently reported negative attitudes expressed by peers towards condom use. Condom use has also come to be negatively associated with trust, respect and fidelity within steady relationships, but is generally accepted within casual encounters. In fact, Hendriksen *et al.*, (2007) showed that young people who were married or in a relationship of six months or longer in duration were less likely to use condoms. Young people erroneously evaluate trustworthiness within relationships based on subjective criteria (appearance and reputation of the partner), rather than on objective criteria (a negative HIV test and discussion of sexual history). Worryingly, 31% of youth in the 2003 RHRU survey still believe that using a condom is a sign of not trusting one's partner.

Power imbalances also play a role in women's ability to negotiate safe sex. In a context of high levels of sexual coercion, women seldom have the power to negotiate sex or condom use in relationships (Wood & Jewkes, 1998). In the Khutsong study, male participants referred to tricking women into having sex, lying about using condoms and forcing women to have sex with groups of friends (MacPhail & Campbell, 2001). In discussions with Zulu young men and women in KwaZulu-Natal, Varga (2003) reported that avoiding conception has come to be defined as part of female sexual respectability and attractiveness. There is general agreement that women hold responsibility for contraception in the relationship although there is little space for open discussion about contraceptive choices with male partners. Although many participants in the study supported contraceptive use, it is still a stigmatized practice bearing the negative social connotation of being promiscuous. Women also have little room to suggest condom use as it is considered inappropriate and indicative of sexual permissiveness (Varga, 2003).

At an *organisational level*, despite the increasing availability of condoms at public clinics, the negative and moralising attitude of health staff in the Khutsong study, limited accessibility and few young people could afford to buy condoms. At the *structural level*, pervasive poverty also forced some young women in the Khutsong study to engage in sexual relationships in exchange for lifts home from school, and gifts and money for subsistence. Similarly, Zulu girls from KwaZulu-Natal reported economic security as one of the reasons for having more than one partner, although multiple sex partners compromised their respectability (Varga, 2003). Under such conditions, women seldom possess the power to demand safe sex.

Attitudes towards teenage pregnancy

Extensive research has been conducted on teenagers' knowledge, beliefs and attitudes about sexuality, high risk behaviours and about contraceptive use. However, not as much attention has been devoted to adolescents' attitudes about pregnancy and parenthood. International studies have shown that young girls are capable of assessing their odds of pregnancy fairly well, and that their parenting desires and expectations are predictive of their subsequent fertility outcomes (Bruckner, Martin & Bearman, 2004; East, Khoo & Reyes, 2006). Adolescents who express low intentions and desire for childbearing are less likely to experience teenage pregnancy (East *et al.*, 2006).

However, even slightly ambivalent attitudes toward early pregnancy increase the risk for early childbearing, probably due to a lack of adequate understanding and appreciation of the negative consequences of early parenting (Bruckner *et al.*, 2004). Ambivalent attitudes are common among teenagers from disadvantaged backgrounds and those who have low future aspirations. For them the benefits of childbearing - maturity, love, responsibility, and the perception that it will lead to a better relationship with the baby's father, outweigh any possible risks (Frost & Oslak, 1999). For such adolescents, the desire to avoid pregnancy is not strong enough to motivate action.

Much of the literature on teenage pregnancy has tended to concentrate on the factors that hinder contraceptive use, and have failed to effectively address the possibility that a significant proportion of female adolescents may view immediate pregnancy and parenthood in a positive light. International research has reported that some adolescents intentionally become pregnant (Unger, Molina & Teran, 2000; Cater & Coleman, 2006; Condon & Corkindale, 2001). Choosing to become pregnant is seen as a positive decision, offering a sense of purpose and future direction. Such a path is chosen to correct negative childhood experiences characterised by dysfunctional family relationships, poor scholastic experiences, and growing up in homes and neighbourhoods where teenage pregnancy was normative (Cater & Coleman, 2006).

Substantive literature existed in SA in the early 1990s that indicated that pregnancy was welcomed, particularly among young Black women and their families as a sign of 'love, womanhood and fertility' and potential bride wealth and that men felt pride in bearing a child as a sign of their masculinity (Preston-Whyte & Zondi, 1992; Caldwell & Caldwell, 1993; Jewkes *et al.*, 2001). However, a shifting socio-economic landscape has brought about changes in the aspirations of young people, particularly in urban areas, and, in turn, altered cultural expectations of young women and men. Over two thirds of adolescent who have ever been pregnant in SA report their pregnancies as unwanted (Pettifor *et al.*, 2004). In addition, only eight percent of women who had been pregnant in the 2006 Kaiser/SABC study reported proof of fertility as a reason for early childbearing. In fact, cultural constructions of femininity have altered to include education, stable employment, career goals and the avoidance of pregnancy (Varga, 2003). In line with increasing opportunities and aspirations for education, and pervasive unemployment, most Black adolescents do not welcome early pregnancy (Kaufman *et al.*, 2001; MacPhail & Campbell, 2001; Rutenberg *et al.*, 2003; Varga, 2003).

A 1996 study of Black adolescents reported that the overwhelming majority of girls did not want to have a child until they had completed school and obtained the financial means to care for a child (Richter, 1996). In 1998, young Black mothers in Soweto spoke of the difficulty of coming to terms with an early pregnancy, coping with betrayal of parents, partners and friends and the trauma associated with weighing options regarding the continuation of the pregnancy, whom to tell and whether to continue education (Kaufman *et al.*, 2001). In 1999, the Transitions to Adulthood study in KwaZulu-Natal reported that Black young women were more likely than

White and Indian women to regard teenage pregnancy as a big problem because of its impact on educational and employment opportunities (Rutenberg *et al.*, 2003). In the context of an HIV epidemic, there are also indications that the perceived risk of HIV may mediate negative attitudes about pregnancy (Rutenberg *et al.*, 2003).

While extensive research has been conducted in SA on knowledge and beliefs about HIV transmission and contraceptive use, most research on knowledge and beliefs about teenage pregnancy has been derived from qualitative research conducted in the 1990s as well as inferred from studies on contraceptive use and HIV. Whether young people understand the biology and detail of how pregnancy happens is unclear. A 1997 study conducted among rural adolescents in Limpopo Province reported a number of myths about teenage pregnancy (Wood & Jewkes, 2006). These include that '*the blood of each sexual partner had to get used to that of the other through a number of sexual encounters before conception could occur and that multiple sexual partners would prevent conception because the blood was different each time*'. A number of practices involving traditional medicine were also reported to prevent conception and avoiding sex during menstruation which they believed was the most likely time for conception to occur. Although more recent qualitative research has indicated that young people receive sufficient sex education to know how pregnancy occurs (Kaufman *et al.*, 2001), quantitative data is not available on knowledge and beliefs about pregnancy. In addition, Wood & Jewkes (2006) indicate that more recent research conducted elsewhere in SA showed that myths about conception still hold, particularly, that most conception occurs during menstruation.

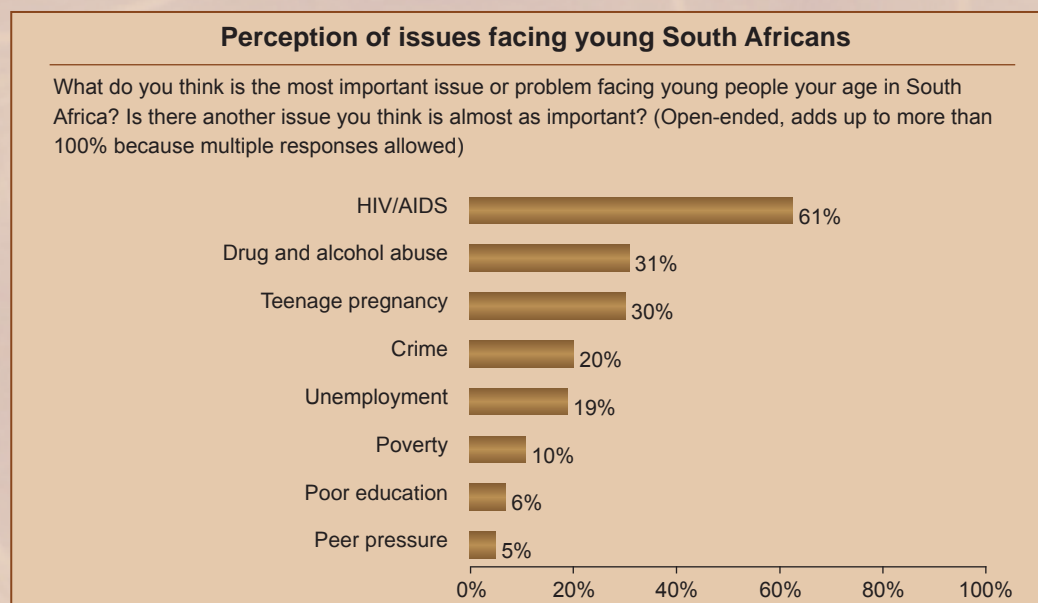
Young people in SA report learn the most about pregnancy prevention from health workers (22%) and schools (17%), parents (15%) and from friends (9%) (Pettifor *et al.*, 2004). For good reason, sexuality education within these environments has focused on the risk for HIV. However, equal focus needs to be given to pregnancy prevention.

Risk perception

When young people perceive themselves to be at risk for pregnancy or HIV, they are more likely to adopt protective behaviours (Kirby, 2007). Although adolescents may have the competency to accurately identify the presence of risk, they do not always have the required capability to sufficiently evaluate the consequences or costs of the risk prior to taking action (Greene, Krcmar, Walters, Rubin & Hale, 2000). In addition, adolescents immature cognitive functioning may limit their ability to apply knowledge to their own behaviour, appraise their risk and to apply skills for safer sexual behaviours (Pedlow & Carey, 2004). Thus they fail to appreciate the chance of the harm happening.

Despite the normalisation of early childbearing in SA, many adolescents still identify teenage pregnancy as a significant issue facing young people (see Figure 11) (Kaiser Family Foundation & SABC, 2006).

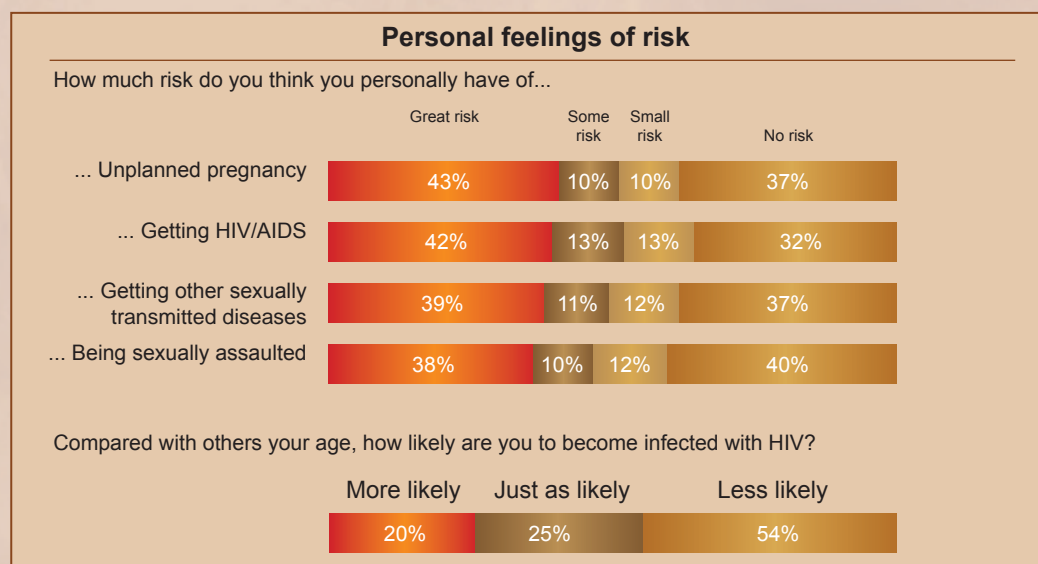
Figure 11: Perception of the most important issues facing youth in South Africa, 2003



Source: Kaiser/SABC Survey, 2006

In addition, a significant proportion of young people (43%) perceive themselves to be at great risk for unplanned pregnancy (see Figure 12). Despite the increased emphasis on HIV and AIDS in SA, equal proportions of young people perceive themselves to be at risk for pregnancy and HIV. The assessment of risk of pregnancy corresponds well with the large percentage of youth in SA who report unprotected sex. It is noteworthy, however, that over a third of young people (37%) do not perceive themselves to be at risk for unplanned pregnancy.

Figure 12: Perception of risk for unplanned pregnancy, STIs, HIV and sexual assault, 2003



Source: Kaiser/SABC Survey, 2006

Substance use

Adolescents who participate in one form of risk behaviour often also partake in other risk behaviours (Essau, 2004). Many studies have shown for example the co-occurrence of substance use and sexual activity (Shrier, Emans, Woods & DuRant, 1996; Flisher *et al.*, 2000). Alcohol and drug use increases an adolescent's chances of unprotected sexual intercourse and, in turn, pregnancy (Kirby, 2002; Limmer, 2008). While the association between alcohol and sexual risk behaviour has long been established (Limmer, 2008), few studies have investigated the direct links between alcohol and pregnancy (Alcohol Concern, 2002). Studies in the US report that between a third and half of adolescent pregnancies are the result of alcohol use (Kaiser Family Foundation; 1996; The National Center on Addiction and Substance Abuse, 2002).

South Africa has the dual burden of high risk sexual behaviour and substance use. At a national level about a third (31.8%) of adolescents report past month drinking and a quarter report binge drinking (Reddy *et al.*, 2003). Several studies have reported that between 6-12% of adolescents have used drugs in their lifetime (Brook, Morojele, Zhang & Brook, 2006; Madu & Matla 2003; Rocha Silva, De Miranda & Erasmus, 1996). A significant proportion (13.3%) of sexually active learners in SA also report using alcohol or drugs before sex (Reddy *et al.*, 2003). In fact, data from Cape Town has shown that when learners use drugs (methamphetamine) they are more likely to have anal, vaginal and oral sex as well as to be pregnant or responsible for a pregnancy (Pluddemann *et al.*, 2008). Although the association between lifetime sexual behaviour and alcohol or marijuana use is strong, the biggest risk that substance use confers to adolescent sexual behaviour is that adolescents are more likely to engage in casual sex (Palen *et al.*, 2006). In fact, studies have shown that when young women initiate sex with a steady boyfriend and someone they know for a while, they are less likely to experience an early pregnancy (Jewkes *et al.*, 2001).

Within the rubric of a dual burden of HIV and substance use in the country, several studies have focused on the ways in which alcohol and drug use serve as precursors for risky sex (Kalichman *et al.*, 2007; Kalichman, 2008; Morojele *et al.*, 2006; Morejele, Brook, & Kachieng, 2006; Palen *et al.*, 2006). The psychoactive effects of alcohol and drug use are thought to increase sexual arousal and desire, decrease inhibition and tenseness, diminish decision-making capacity, judgement and sense of responsibility, and generally disempower women to resist sex (Morejele *et al.*, 2006). Studies have reported on the increased risk of forced sex and the decreased likelihood of using condoms when under the influence of alcohol (Morojele *et al.*, 2006). These effects are facilitated in a context of high unemployment, and in an environment where peer norms promote heavy drinking, alcohol and drugs are easily accessible and casual sex readily available.

Childhood sexual and physical abuse

Although the evidence of the relationship between childhood sexual abuse and adolescent pregnancy has been mixed, a recent review reported nine studies that supported such a relationship (Francisco *et al.*, 2008). In addition, a number of studies found a strong relationship between child sexual abuse and risky sexual behaviour (Francisco *et al.*, 2008). Studies have shown that a disproportionately large number of adolescent mothers report a history of past sexual and physical abuse (Francisco *et al.*, 2008; Hillis *et al.*, 2004; Kirby, 2002; Van Der Hulst *et al.*, 2006; Lansford *et al.*, 2007; Pallitto & Murillo, 2008).

Data is not available in SA on the link between child sexual abuse and early pregnancy. However, it is well known that SA is a violent society. Although state institutionalised violence under *Apartheid* has been replaced by a rights-based framework, violence has come to be entrenched in our interpersonal interactions, at home,

in schools and communities. Child abuse – whether physical, sexual or psychological is rife in SA. It is difficult to quantify the extent of abuse because of variability in how it is defined, its hidden nature and differences in community understanding and willingness to report abuse (Richter & Dawes, 2008). South African Police Service data on reported crimes provide a potential gauge. However, these are likely to be grossly underreported. For the year 2004-2005, children were victims of almost half of all indecent assaults (48.2%), close to half of all rapes (42.7%) and one in 10 common assaults (11.4%) (Richter & Dawes, 2008). Children are also the victim of physical abuse by their families. In 2005, Dawes and colleagues measured parent's social attitudes to physical punishment in SA. Over half of the sample (57%) had smacked their child in the past year and of these 3 out of 5 (60%) had used a belt or another object to beat their child. Most children who were smacked were 3 years and those who were beaten with an object were 4 years.

A number of reasons have been provided to explain the link between prior abuse and increased risk of teenage pregnancy. Adolescents with a history of child sexual abuse have experienced a violation of their most intimate boundaries. This can lead to a sense of powerlessness in relationships and may influence their ability to negotiate contraceptive use (De Bellis, 2001). Traumatized adolescents turn to substance use, prostitution and running away from home, increasing their risk of early pregnancy (Pike & Wittstruck, 2000; Saewyc, Magee, & Pettingell, 2004; Silverman, Raj, Mucci *et al.*, 2001). They often partner with adult men as these relationships are viewed as more advantageous in terms of the resources they are able to provide (Darroch, Landry & Oslak, 1999; Elstein & Davis, 1997). While such a partnering may initially offer the means necessary to escape a violent family of origin, the imbalance of power and control limits their ability to negotiate contraceptive use (Harner, 2005). Adolescents who report a history of sexual abuse are less likely to use contraceptives than those who are not abused (Kirby, 2002; Koenig *et al.*, 2004; Saewyc *et al.*, 2004).

Interpersonal factors

The day-to-day social environment in which young people participate and develop can have a profound effect on behaviour. Families, together with partners, peers and schools play a significant role in identity formation and decision-making (NRC & IOM, 2005).

Families

Many aspects of family life exert substantial influence on adolescents' sexual behaviours and pregnancy risk (Miller, Benson, Galbraith, 2001; Miller, 2002). These include socio-economic status (discussed later on), family type, parental values and role-modelling, parental style, monitoring and support and parent-child communication.

Family type

Family structural characteristics play a vital role in understanding and determining teenage sexual behaviour including pregnancy. Many studies have shown that family structure is strongly correlated with teenage pregnancy (Langille, Flowerdew & Andreou, 2004; Miller, Bayley, Christensen Leavitt & Coyl, 2003). Growing up in a single-parent home (Bonell *et al.*, 2006; Kirby, 2002; Miller *et al.*, 2001) or without any parents places adolescents at elevated risk of early pregnancy (Miranda & Szwarcwald, 2007; Zeck, Bjelic-Radisic, Haas & Greimel, 2007). Even when family factors associated with father absence are controlled for, the association between mothers' single parenting and daughters' early pregnancy persists (Ellis, Bates, Dodge *et al.*, 2003). Teenagers who are raised in larger families are also at increased risk of earlier sex than those who are not.

This results from teenager's replicating their siblings' sexual behaviour or because parental monitoring is spread too thin when more children live in the home (East & Jacobson; 2001; East & Shi, 1997).

The link between family structure and youth sexual behaviour has been attributed to single or divorced parents more permissive sexual attitudes and values (Dittus & Jaccard 2000; Jaccard, Dittus & Gordon, 2000), lesser parental supervision and monitoring and the parents own dating activity (Whitbeck, Simons & Koa, 1994). Furthermore, household characteristics such as family income and maternal employment may be associated with both poor parenting and family structure (Antecol & Bedard, 2007), in turn, affecting adolescent sexual behaviour. Quantitative data among adolescents from KwaZulu-Natal showed that poverty leads to distant parent-child relationships affecting behavioural and personality attributes of adolescents (Brook *et al.*, 2006). This, in turn, increases the likelihood of association with deviant peers and ultimately, risky sexual behaviour.

Household structure is a subject of much debate in SA because of the effects of a migrant labour system that separated production and reproduction, early fertility, delayed marriage, HIV and AIDS deaths and economic and cultural factors that promote and support multigenerational living. Studies have shown that SA does not follow a single pattern of living arrangements. While White families generally follow the Western model of nuclear families, Black, and Coloured families and increasingly Indian families support extended family living arrangements because of the factors mentioned above (Amoateng, Heaton & Kalule-Sabiti, 2007). Father absence from the home has come to characterise South African living arrangements, largely because of the persistence of unemployment forcing men and, increasingly women to migrate to urban centres in search of work. According to the 2001 population census a fifth of African men (19.2%) lived apart from their wives compared to only 4% among White families (Amoateng, Heaton & Kalule-Sabiti, 2007). The demographic surveillance site in Agincourt, Mpumalanga has reported an increase in female-headed households between 1992 (27.6%) and 2003 (35.9%) as well as the number of households with orphaned and fostered children. National data confirms the concentration of poverty in female-headed households (60.6% for women vs. 38.3% for men at R322 a month poverty line), despite improvements since 1995 (Bhorat & van der Westhuizen, 2008). In addition, female-headed households account for a disproportionate share of the poor compared to their share of the population. Half of individuals considered poor in 2005 lived in female-headed households.

Parental values and role-modelling

The family has a very early and extensive impact on an adolescent's belief systems and values, and hence on their behaviour (Gordon, 1996). Consistent parental values have been recognised as a vital factor that influences later sexual debut and decreases the risk of unintended pregnancies (Berglas *et al.*, 2003). Adolescents whose parents are clear about the value of delaying sex are less likely to have intercourse at an early age (Blum & Rinehard, 1998). Parents' values against adolescent sexual intercourse (or unprotected intercourse) decrease the risk of adolescent pregnancy (Miller *et al.*, 2001). However, parents with permissive attitudes about sex or premarital sex, or those that have negative attitudes about contraception have teenagers who are more likely to have unsafe sex and become pregnant (Dittus & Jaccard 2000; Jaccard *et al.*, 2000; Kirby, 2002).

Family members also serve as role models to their children. Adolescents are more likely to initiate sex and experience pregnancy if their parents or other family members have sex outside of marriage, are cohabitating with a romantic or sexual partner or have had a child outside of marriage (Kirby 2001). In addition, several studies have demonstrated that having a mother or sister who was a teenage parent is strongly linked with a teenager herself falling pregnant (East & Jacobson, 2001; East *et al.*, 2006; Vikat *et al.*, 2002).

Parental style, monitoring and support

The nature and quality of relationships shared between an adolescent and their parent can have a major influence on the decisions that they make about sex. Teenagers whose parents provided a warm, loving, and nurturing environment are less likely to engage in sex (Cox, 2007). A review of more than twenty studies demonstrated that parent-child connectedness (support, closeness, and parental warmth) decrease the risk of adolescent pregnancy by influencing adolescent sexual and contraceptive behaviours (Miller *et al.*, 2001). However, overly strict and authoritarian parenting style is associated with a greater risk of teen pregnancy (Miller, 1998).

A failure to share a close connection with adolescents often heightens the influence of peers on sexual activity. This could account for the association between poor or distant parent-child relationships and risky adolescent sexual behaviour (Feldman & Brown, 1993). Adolescents who describe their relationships with their parents as coercive or conflictual, for example, are more likely to be involved with deviant peer groups, and the peers become most important and influential. Conversely, adolescents whose parents have more authoritative parenting styles are more likely to belong to a peer group that supports both adolescent and parent norms (Perrino *et al.*, 2000).

Parental practices impact both the emotional and social development of adolescents. Parents who set and enforce rules, monitor behaviour and provide support can positively impact sexual behaviour. Studies have shown that parental regulation through house rules, supervision and monitoring can delay sexual debut, reduce the number of partners (Cohen, Farley, Taylor, Martin & Schuster, 2002; Huebner & Howell, 2003), increase contraceptive use (Miller *et al.*, 1999; Rodgers, 1999) and decrease pregnancy risk (Miller *et al.*, 2001).

Parental communication

Among the various dimensions of family social support, parent-adolescent communication on issues of sexual behaviour and childbearing has received considerable attention (Camlin & Snow, 2008; Wilson & Donenber, 2004). Positive, open and frequent family communication about sex is linked to postponement of sexual activity, increased contraceptive use and fewer sexual partners (Blake, Simkin, Ledsky, Perkins & Calabrese, 2001; Dittus & Jaccard 2000; Hutchinson, Jemmott, Jemmott, Braverman & Fong, 2002; Karofsky, Zeng & Kosorok, 2000). Similarly, parent-child communication is vital for the prevention and reduction of teenage pregnancy (Hollander, 2003). Many adolescents concur that it would be easier for them to avoid teen pregnancy if they were able to have more open and honest conversations about these topics with their parents (Albert, 2004). Parent-child communication about sex increases the likelihood that sexual risk will be discussed with partners and can mediate negative peer norms about sexual behaviour (Whitaker & Miller, 2000).

Despite the importance of parent-adolescent communication about sexual behaviour, the timing, frequency, content, developmental appropriateness and quality may mediate the outcomes of communication (Dittus & Jaccard 2000; Whitaker *et al.*, 1999; Blake, Simkin, Ledsky *et al.*, 2001; Miller, Benson, & Galbraith, 2001). Communication between parents and adolescents about sexual risk behaviour represents a missed opportunity in SA. Even though 79% of adolescents regard parents as a trusted source of information about HIV (Kaiser Family Foundation & SABC, 2006), even more so than friends, only 4% of adolescent report learning the most about HIV from their parents (Pettifor *et al.*, 2004). In addition, 15% reported learning the most about contraception and pregnancy prevention from their parents. Adolescents in SA report poor communication with

parents about sexual matters in that parents refuse to hold conversation with them about sex, provide only vague indications rather than direct and correct information, and may even punish them for bringing up the topic (Eaton *et al.*, 2003; Kelly, 2000; Kelly & Parker, 2000; Lesch & Kruger, 2005).

Focus group discussions conducted among Coloured adolescents in the Western Cape reported that there was little space for open communication about sexuality with their mothers (Lesch & Kruger, 2005). Mothers used a discourse of danger about sex linked to religious violations, to dissuade their daughters from sexual activity. To protect a close relationship with their mother's, a culture of silence was maintained about sexuality even though there were clear signs that daughters were sexually active. Richter *et al.* (2006), commenting on third generation pregnancies in the BT20 cohort in Soweto, also noted the culture of silence around teenage fertility even though it is wholly apparent that girls are sexually active and pregnant. Young women in the Western Cape also do not seek contraception because of the fear that their mothers' will discover that they are sexually active (Lesch & Kruger, 2005).

Ethnographic research that preceded a family-based intervention to improve communication between parents and children about HIV and sexuality in rural KwaZulu-Natal, titled CHAMPSA, showed that parents lack both knowledge and skill to talk openly about sex and felt disempowered to parent their children in an environment that emphasizes a rights-based culture for children (Paruk *et al.*, 2005). In addition, the generational knowledge gap, fuelled by the educational gap between parents and children, also contributed to their sense of disempowerment. The loss of traditional customs where girls and boys were schooled about sexuality by appointed members in the community as well as the sense of social cohesion where parents shared collective responsibility for raising children in a community, have left parents confused as to how to respond to the HIV epidemic and pregnancy. To compensate for the disempowerment, parents resort to misinformation and myths as well as a punitive parenting styles involving physical violence to discourage girls from sexual activity (Paruk *et al.*, 2005). Following the intervention, both quantitative (Bell *et al.*, 2008) and qualitative research (Paruk, Peterson & Bell, 2009) reported an improvement in parents knowledge about HIV, increased comfort in talking about sensitive issues with their children including the discourse of rights and responsibilities, and greater monitoring and control of children's whereabouts.

Partners

Gender power inequities play a significant role in women's vulnerability to early and unprotected sex as well as pregnancy in SA. Sexual and physical violence have come to characterise relationships between men and women in some communities in SA. The 2003 RHRU survey reported that 2% of 15-24 year old males and 10% of females had been physically forced to have sex. In a case control study among pregnant teenagers in Cape Town, Jewkes *et al.* (2001) demonstrated that only a quarter (25.7%) of pregnant teens reported having sex willingly the first time; 2 out of 4 were persuaded (42.4%) and a third were raped (31.9%). In fact 72% of pregnant teens in the study reported coercive sex and a tenth (11.1%) reported rape. Forced sex or coercion is often accompanied by physical assault. In this study 3 out of 5 pregnant teens (59.8%) reported being beaten by their boyfriends and almost 4 out of 5 (77.9%) were afraid that they would be beaten if they refused sex. Both sexual coercion and greater frequency of beatings were significant risk factors for pregnancy in the study.

There is rich qualitative data in SA describing the context of first sexual experiences of young women (Wood *et al.*, 1998; Woods & Jewkes, 1997; MacPhail & Campbell, 2001; Varga, 2003; Morojele, Brook & Kachieng,

2006). Women are often forced or tricked into having sex for the first time, usually involving physical violence to ensure acquiescence, and this pattern characterises their sexual relationships well into the future. The practice is so widespread in some communities that peers reinforce it as a normative and accepted practice; women come to believe that they are beaten as a show of love; and men take advantage of the initial sexual naivety of women by equating penetrative sex as proof of love. Several studies have in fact reported that women do not recognise forced sex as rape when it involves a boyfriend.

Violence is used to ensure the sexual availability of women, to punish alleged infidelity when women refuse sex (although men view it as a right to have multiple partners), and to prevent women from ending relationships. The threat of violence or of rejection is a significant deterrent to discussing contraceptive use. Despite the extent of violence experienced and their general cognisance of the power imbalances and contradictions in their relationships, few in fact consider leaving (Jewkes *et al.*, 2001). It is hypothesized that in a context of pervasive poverty and unemployment, being in a relationship is one area in which women can achieve success and self esteem can be gained. In addition, although not recognised as transactional sex, relationships often afford women material gains which would otherwise not be accessible to them. In such a context where sexual and physical violence has become a social construct of relationships, individually focused interventions that merely promote 'choice' among women are unlikely to achieve much success (Wood, Maforah & Jewkes, 1998; Woods & Jewkes, 1997). Sexuality has to be renegotiated within the context of a relationship and this requires a concerted effort to involve men in behaviour change interventions.

Peers

As children make the transition from childhood to adolescence and engage in the process of identity formation, their reliance on parents and siblings as the sole sources of influence and decision-making begins to change. Increasing interaction with other role models - best friends, peers, teachers and community members, begin to expand their sphere of influence. Peer attitudes, norms and behaviour as well as perceptions of norms and behaviour among peers have a significant and consistent impact on adolescent sexual behaviour. Studies have shown that when teenagers believe that their friends are having sex, they are more likely to have sex and when a positive perception about condom use is perceived among peers, adolescents are more likely to use condoms and contraceptives (Kirby, 2002; Sieving *et al.*, 2006).

While there is some evidence of the influence of peers on teenage pregnancy in SA, much of the literature on peer influence revolves around contraceptive use and sexual behaviour. In a study on the risk factors related to teenage pregnancy in Cape Town, Jewkes *et al.*, (2001) reported that sex often happened because most adolescents perceived that people of their age were sexually active (Jewkes *et al.*, 2001). Similar findings were reported among adolescent girls in KwaZulu-Natal. While peers encourage sexuality among friends, pregnancy itself is highly stigmatized as it is regarded as a poor showing of female decorum (Kaufman *et al.*, 2001). The study also reported that while constructions of femininity require women to be chaste and adhere to sexual fidelity, girls often feel pressure from friends to maintain multiple sexual partnerships as a means to gain peer group respect (Kaufman *et al.*, 2001). Similarly, Wood, Maepa & Jewkes, (1997) reported that girls who were sexually inexperienced were excluded from friendship circles when issues of sexuality were discussed because they were regarded as 'children'.

Because sexual activity has come to define what it means to be successful as a man, young men, in particular, received significant social pressure and support from peers to be sexually active and maintain multiple sexual partnerships (MacPhail & Campbell, 2001; Varga, 2003). In the same vein, negative peer norms around condom

use have been internalised by young men dissuading them from using condoms (MacPhail & Campbell, 2001; Morojele et al, 2006).

While much of the SA literature on peer norms are derived from qualitative research, a quantitative study in KwaZulu-Natal has shown that deviancy among peers – measured by delinquency, smoking, drinking, marijuana use and sexual intercourse, has a direct and independent relationship with risky sexual behaviour (number of sex partners, frequency of condom use and sex while using drugs or alcohol). The 2003 RHRU survey also provides some indication of the degree of peer influence on sexual behaviour. While 68% of youth reported that they received no pressure from friends to have sex, 10% reported that they received a lot of pressure to have sex. Females (74%) were more likely than males (61%) to report no pressure at all to have sex. In addition, 29% of teens aged 15-19 years thought that all of their friends were sexually active and an equal percentage reported that half or more of their friends were having sex. Even though friends (40%) are the least trusted source of information about HIV (Kaiser Family Foundation & SABC, 2006), 72% of young people have talked to their friends about HIV, far exceeding conversations with any other group (such as teachers, partners, siblings and health workers) (Pettifor *et al.*, 2004). Shifting peer norms through strategies such as peer education is critical to alter risk for pregnancy and HIV.

Communities

The socio-economic status of communities, the sense of social cohesion in the community that allows for informal social control as well as the role modelling offered by adult members of a community can have a bearing on the sexual behaviour of adolescents. Social disorganisation, high levels of disadvantage and poor achievement of members of a community increase the likelihood of young people engaging in sex earlier and having early pregnancies (Kirby, 2002). Low levels of education, income and employment as well as high rates of crime amongst community members are risk factors for early pregnancy. Conversely, when community members are high achievers in terms of education, income and employment and they place a greater emphasis on higher education, pursuing career goals and avoiding teenage pregnancy, teenage pregnancy rates are likely to be low (Kirby, 2002).

Despite high rates of unemployment and poverty that concentrate in certain sectors of the South African society, few studies have examined community level impact on sexual risk behaviour. Using the Cape Area Panel Study data for 2002 and 2005, Dinkelman, Lam and Leibbrandt (2008) showed that community level poverty significantly predicts early sexual debut for both males and females and higher rates of unprotected sex for males. When young people can't complete school and struggle to find work and see few opportunities for economic security, they are likely to discount the costs of pregnancy, HIV and display a willingness to take greater risks (Kaufman *et al.*, 2004).

Data from the KZN Transitions Study showed mixed effects of community levels of education, income and participation in organised activity for boys and girls (Kaufman, Clark, Manzini & May, 2004). Higher levels of opportunity for education, income and participation in sport among girls, decreased their likelihood of having sex in the past year. However, for boys, each of these community attributes decreased the likelihood of condom use. These findings may be reflective of the underlying gender dynamics in communities within a context of relative poverty, where access to privilege for men confers entitlement not to use condoms and to engage in other high risk behaviours.

High levels of social cohesion within communities can offer protection against adolescent risk behaviour through the collective action of community members to implement informal social control (Sampson, Raudenbush & Earls, 1997). But in an environment of rapid social and cultural change social connectedness can be disrupted because of the lack of common values and goals (Paruk *et al.*, 2005). Ethnographic research to support the implementation of a family and community level response to HIV in rural KwaZulu-Natal reported that an erosion of community members trust in one another – particularly in relation to child sexual molestation in the community, and the tensions between political and traditional community leadership has dampened the willingness of community members to act in the interest of all of its children (Paruk *et al.*, 2005). However, through a family-based intervention delivered at a community level, the social capital of the community was being restored through increased social support and reciprocity among community members, informal social control in regulating school attendance, and confronting drug use and unlicensed alcohol sales in the community, as well as social leverage in encouraging men to be more involved in child rearing and protection (Paruk, Petersen & Bhana, 2009). The quantitative analysis showed that the intervention was able to strengthen social networks, an essential ingredient for developing social capital (Bell *et al.*, 2008).

Institutional factors

Staff at public health clinics, as the gatekeepers to healthcare services, can have a significant impact on young people's sexual behaviour (Eaton *et al.*, 2003). When quality healthcare services are provided by skilled professionals without judgement and respect for the confidentiality of adolescents, they are more likely to use services (WHO, 2002). In addition, services that are convenient in terms of open times, not involving long queues and that are free or at minimum affordable are more likely to attract young people (WHO, 2002). Yet studies the world over have shown that when young people require health services, the public sector is often the last resort. The conditional nature of health services – either through physical distance, poor quality of clinical services, lack of privacy and respect, high costs and a culture of shame that surrounds certain conditions that are reinforced by health care workers, makes healthcare inaccessible, unacceptable and inappropriate (WHO, 2002).

Even though family planning services including condoms and other forms of contraception are available without charge from public health facilities in SA, and most young people do in fact access condoms from health facilities (Shisana *et al.*, 2005), the attitude of health staff serve as a significant barrier, especially for young women. Young women trying to access free condoms from clinics choose never to return because of the judgement and scolding of clinic staff (MacPhail & Campbell, 2001; Wood & Jewkes, 2006). Contraceptive use is associated with a culture of fear, shame and poor morality rather than responsible and healthy sexuality. Adolescents in Limpopo Province reported harassment by health staff not only for their sexuality but for arriving after school for services (as opposed to the morning), for tampering with clinic cards, and for not arriving on the stipulated return date (Wood & Jewkes, 2006). Although this study was conducted in 1997, more recent studies conducted elsewhere indicate that the negative attitude of health staff persists (Matthews *et al.*, 2009).

Even though parental permission is not required for adolescents to use contraception, nursing staff also violate the privacy and confidentiality of young girls by threatening to report condom use to parents (MacPhail & Campbell, 2001). Focus group discussions among Coloured adolescent in the Western Cape also reported that adolescent did not use contraception because of the lack of confidentiality at local clinics (Lesch & Kruger, 2005).

In some cases, nursing staff, together with mothers, force young girls to use injectables, sometimes at the inception of menstruation to avoid early pregnancy (Wood & Jewkes, 2006). Nursing staff also do not educate young girls sufficiently enough on how to take contraceptive pills and on the consequences of missed doses as well as the potential side effects of injectables such as amenorrhea and weight gain (Wood & Jewkes, 2006). As a result, girls used contraceptives incorrectly (e.g., by taking pills only when partners visited or on some days) and sometimes stop contraceptive use altogether.

As discussed earlier, conscientious objection by health workers and stigmatizing attitudes also limit the availability of emergency contraception (Woods & Jewkes, 2006) and abortion services to young women (Jewkes *et al.*, 2005).

Failure to promote health sexuality among young people and to educate them about contraceptive use represents a missed opportunity for prevention of teenage pregnancy and HIV. Doctors/scientists (87%) are the most trusted source of information on HIV among young people in SA (Kaiser Family Foundation & SABC, 2006). Yet only 12% of young people learned the most about HIV from health workers/nurses/doctors and clinics (Pettifor *et al.*, 2004). Health workers also play the most important role (22%) in educating young people about contraception and pregnancy prevention. The shift towards the provision of adolescent friendly services in SA is therefore a welcomed initiative, though its effectiveness in improving adolescent health outcomes, both locally and internationally, is still to be established (Mathews *et al.*, 2009; Tylee, Haller, Graham, Churchill & Sancu, 2007). In the absence of a supportive health care system for young people, service provision, outside of the health sector may need to be considered.

Structural factors

Much emphasis has been placed on how individual behaviour and social interaction with important others confer risk for pregnancy, STIs and HIV. However, increasingly, the context in which young people grow up is being identified as the differentiating factor for which young people are protected against negative life outcomes and which are at heightened risk.

Cultural context

The possible impact of culture on attitudes towards teenage pregnancy needs to be considered. In certain cultures, teenage pregnancy is accepted and welcomed (Kirby, 2002; Melby, 2006) and this could impact teenagers' attitudes towards pregnancy and, in turn, their behaviour. Most research on pregnancy in SA has been conducted on older women and, in particular, among Black women. There is a dearth of literature on teenage pregnancy among Indian and White South Africans (Jewkes & Christofides, 2008). Understanding the protective factors in these groups could offer important lessons for preventing early childbearing among Black and Coloured adolescents. Anecdotal evidence suggests that pre-marital pregnancy is not accepted in these groups (Jewkes & Christofides, 2008). Due to the high levels of stigma as well as the higher incentive to continue education and achieve financial aspirations as well as better access to reproductive health services, afforded by their generally higher socio-economic status, most White and Indian adolescents avoid pregnancy. When it does occur, pregnancy is either terminated or couples get married and share financial and social responsibility for the child. However, in the main teenage pregnancies are avoided through the use of contraception or termination services (Jewkes & Christofides, 2008).

The high rates of teenage fertility among the Black and Coloured population groups have made it a normative phenomenon. While pregnancies continue to be highly stigmatized, families have adjusted their response to

accommodate early childbearing to mitigate the educational and economic consequences for the teenage mother and her child. There is generally no expectation of marriage in these groups because of early pregnancy.

Research conducted among Black adolescents has pointed towards substantial power imbalances in sexual relationships between men and women. Very little is known about the status that women assume in sexual relationships in other cultures in SA (Eaton *et al.*, 2003). Because of the close association between race, poverty and socio-economic status and their independent associations with sexual coercion and violence, cultural constructions of femininity and masculinity can only in part account for the Black women's negative experiences in sexual relationships (Eaton *et al.*, 2003). Nevertheless even when the above factors are controlled for, race differences remain, probably a reflection of cultural differences related to sexuality (Kirby, 2007).

A substantial discourse on the influence of African culture, particularly constructions of femininity and masculinity as display of love, womanhood and fertility, and virility respectively, dominated reasons for teenage pregnancy in SA in the early 1990s (Jewkes *et al.*, 2001, Preston-Whyte *et al.*, 1990). While some research indicates that parts of these constructions may still be valid in certain sectors of society, particularly in rural areas (Wood & Jewkes, 2006; Varga, 2003), more recent research indicates that the social and economic transition in the country may have influenced these views. Varga (2003) in discussions with Zulu-speaking male and female adolescents in both urban and rural KwaZulu-Natal has demonstrated how avoiding pregnancy together with educational, economic and career aspirations have come to define what would be regarded as 'respectable' for young men and women. Although fertility and motherhood continue to be important factors in the life course of women, pregnancy during adolescence was viewed as a major setback in terms of educational and economic aspirations. Even rural girls in this study reported a tension between traditional roles tied to fertility and social respectability associated with education and economic success. While sexual activity is the norm and encouraged among friends, having an early pregnancy is regarded as poor female decorum and subject to severe stigma by family and friends. Young women are stigmatized as 'bad', 'ruined', and a 'failure'.

While avoiding pregnancy has now come to define what it means to be respectable as a young woman, a number of other practices continue to hobble opportunities to avoid pregnancy. These include traditional notions of sexual fidelity and sexual availability to partners, normalised coercive sex, men holding sexual decision-making power and little room to negotiate contraceptive use with partners. However, respectability among men is still strongly tied to their *right* to make decisions about when, where and how sex happens, to be highly sexually active and to have multiple partners. This highly sexualised notion of respectability is often linked to a biological *need* for sex. A number of studies have commented on the natural desire among men for sex – a social construction believed by both men and women, as a means to justify multiple sexual partners and coercive sex (Eaton *et al.*, 2003; Jewkes, Penn-Kekana & Junius, 2005, Richter & Dawes, 2008). The socio-economic transition has added a new feature to masculinity – that of material wealth. A man's ability to display material wealth and success improves his sexual desirability.

Although an early pregnancy seldom leads to marriage in African culture, acceptance or rejection of paternity plays a critical role in determining the respectability of a woman and her child (Kaufman *et al.*, 2001; Varga, 2003). When paternity is accepted, it offers social and financial commitment to the child and dignity and respect to the mother and her family. But acceptance or rejection of paternity rests entirely with the males' family. Because sexual activity and material success rather than fertility have come to define masculinity and respect, paternity is often denied, particularly in urban environments, to protect educational, financial and

career opportunities. Under these circumstances 'backstreet' abortion becomes a real possibility for women to avoid the stigma of an early pregnancy (Varga, 2003). Alternatively, as in most cases, the young woman and her family bear financial and social responsibility for the child. Even if 'damage' payments are made as an acknowledgement of paternity, it does not always lead to continued social and financial responsibility for the child (Kaufman *et al.*, 2001).

Socio-economic status and poverty

There is a substantial body of evidence indicating that one of the most consistent risk factors for early pregnancy is lower socioeconomic status and poverty. Several studies conducted in developed and developing countries indicate that adolescent mothers are more likely to have been brought up in a less-advantageous social environments, come from poor families and experience pre-existing disadvantage that results from poorer economic circumstances (Branch, 2006; Hallman, 2004; Hobcraft & Kiernan, 2001; Kirby, Coyle, & Gould, 2001; Miller *et al.*, 2001; Russell, 2002; Woodward, Horwood & Fergusson, 2001). The cycle of poverty repeats itself, with pregnant adolescents beginning a lifelong trajectory of poverty for themselves and their children through truncated educational opportunities and poor job prospects (Aldaz-Carroll & Moran, 2001). As such, teenage motherhood serves as a mechanism by which poverty is passed down from generation to generation.

Studies conducted in SA confirm the link between lower socio-economic status and risky sexual behaviour as well as teenage pregnancy. Analysing household survey data collected in 2001, Hallman (2004) found that socio-economic disadvantage significantly increased the likelihood of a range of unsafe sexual behaviours and experiences, especially for females. These include early sexual debut, multiple sexual partnerships and lower levels of condom use at most recent sexual encounter. Similar results are reported in other South African studies (Dinkelman *et al.*, 2008; Kelly & Parker, 2000). Poverty also raises young women's chances of experiencing coerced sex, both at sexual debut and during their lifetime as well as engaging in transactional sex. Hallman's (2004) analysis also revealed that lower socio-economic status reduces the odds of communicating with one's partner about safe sexual practices for both males and females. Poorer young women were significantly more likely to have lower access to family planning information and to have experienced a pregnancy (Hallman, 2004).

Socioeconomic disadvantage can lead to early childbearing through many different pathways (Kearney & Levine, 2007). Socio-economic status impacts the immediate context of pregnancy prevention, with higher status permitting greater access to information and better education, contraceptive services and child care facilities (Jewkes & Christofides, 2008). Adolescents who come from impoverished backgrounds may be unaware of the different possibilities available to them, thus limiting their ability to make optimal choices. In fact, data from KwaZulu-Natal showed that between 1999 and 2001, learners attending low resourced schools were less likely to receive life skills education than high resourced schools (Magnani *et al.*, 2003).

Growing up in disadvantaged circumstances reduces the incentive to avoid early motherhood (Kearney & Levine, 2007). Adolescents raised in poverty-stricken households may have been subjected to dysfunctional schools, poor education quality and may lack the motivation to prevent pregnancy perceiving they have little positive options (Grant *et al.*, 2002; Jewkes & Christofides, 2008). The poor employment opportunities in these communities may further deter adolescents from staying in school and preventing pregnancy (Kearney & Levine, 2007). With low expectations about their own successes and future optimism, there is less incentives to prevent unwanted pregnancy (Jewkes & Christofides, 2008; Stevens-Simon & Lowy, 1995). In fact Hendriksen *et al.*, (2007) showed that optimism about the future was a significant predictor of condom use amongst young men.

Poverty in SA is pervasive. Using the Income and Expenditure Survey data and a poverty line of R322 a month, Borat & van der Westhuizen (2008) showed that poverty has declined by only five percentage points between 1995 (52.5%) and 2005 (48.0%). What is more, a fifth of the population (22.7%) still live in severe poverty (R174 per month). Poverty largely concentrates among the Black (56.3%) and Coloured (34.2%) population groups although these groups experienced the largest declines in poverty between 1995 and 2005. Poverty also concentrates among young people. In 2003, the Status of Youth Report (Richter *et al.*, 2005) showed that 34% of young people aged 18-35 were poor and 16% were ultra poor.

Another measure of disadvantage in SA is the unemployment rate. In 2007, 22% of the population were unemployed (Stats SA, 2007). Young people (51%), in particular, Black males (47.3%) and females (57.8%) aged 15-24 years bear the weight of the unemployment crisis in SA. In a context of high rates of poverty and unemployment the incentives to practice safe sex are few. Although young people in SA are generally optimistic about the future (87%) (Kaiser Family Foundation & SABC, 2006) and place high value on living a healthy life (93%), two thirds are concerned about not being able to find a job (68%) and being able to support their families (67%). It is these immediate concerns for economic security that confer risk either through lower incentives or through reciprocity of unprotected sex in exchange for 'lifts to school, gifts and subsistence cash' (MacPhail & Campbell, 2001). The inextricable link between adolescent motherhood and poverty and socio-economic disadvantage means that strengthening the negotiation and communication skills of young women and providing access to health services may not be enough (Hallman, 2005) to decrease risk for pregnancy, STIs and HIV. These measures need to be supported by efforts to build the skills of women and create opportunities for livelihoods that would minimise trade off between health and economic security.

Public policy

Government policy has the power to influence the trajectory of teenage pregnancy through both direct and indirect ways. Policy decisions can determine the availability (or the lack thereof) of resources to provide critical services and to implement programmes (Brindis, 2006). Highly politicised debates on public policy has the capacity to determine the direction of policy, the types of services that are made available to young people (Brindis, 2006) and to raise the consciousness of the public about the issue being discussed, often with the potential of producing shifts in norms. As the agency of young people to influence their own development and that of others is increasingly recognised, they become targets of policies and programmes (NRC & IOM, 2005). Some policy decisions are targeted at youth directly as primary decision makers, while others influence the context in which young people are growing up (NRC & IOM, 2005).

But the impact of national policy and programmes is often hard to measure and the available evidence, particularly, in developing countries is thin (NRC & IOM, 2005). Nevertheless, the declining teen pregnancy rates in SA have occurred in parallel with the institution of an enabling policy environment for young people. These include the increased availability of family planning services including termination of pregnancy, policies on life-skills education in schools, and government-funded media campaigns (Jewkes & Christofides, 2008). The latter two, although driven by rising HIV and AIDS rates among young people, have conferred benefits to teenage pregnancy. Other more indirect policy benefits have accrued through increased access to educational and economic opportunities for young people and the availability of social grants such as an old age pension and the child support grant that have enabled parents to keep their children in school (Samson *et al.*, 2004). The progressive approach adopted by the Department of Education to allow pregnant girls to remain in school and to return to school post-pregnancy has to some extent mitigated the educational and economic consequences

of teenage pregnancy. In addition, it has also prevented the rapid childbearing that generally follows first birth. Despite a low mean age at first birth, second birth is significantly delayed in SA (Garenne *et al.*, 2000) because of the opportunity to continue education (Kaufman *et al.*, 2001).

While experts in the field have made the logical association between enabling policy and declines in teenage fertility in SA, much more rigorous empirical evidence is needed to support these conclusions. This is especially important in light of the fact that popular and political perception is that teenage fertility is increasing.

Secondary analysis

South Africa is notable as a society where there are lower levels of marriage in comparison to many parts of the world. This manifests as late age at first marriage and low marriage prevalence among women throughout their reproductive stage. However, late marriage or its absence has not led to postponement of reproduction by young people. Indeed, sexual activity tends to start immediately after the onset of puberty as was the case traditionally. Thus, as the age of onset of puberty is declining – because of improving nutritional status, so has the start of the reproductive life of young people. The Status of the Youth Survey 2003 showed that the median age at sexual debut for young people aged 18-24 years was 16 for males and 17 for females (Richter *et al.*, 2005). The median age of first birth of all women surveyed was found to be 20.

The HSRC Status of Youth Survey 2003 was used to identify the determinants of early pregnancy. As the median age of experiencing a first pregnancy was found to be 20, early pregnancy would fall within teenage years. The selection of independent variables was based on the socio-ecological model, which identifies different levels of influence for health-related behaviours and conditions: (1) individual, (2) interpersonal, (3) institutional, (4) community, and (5) public policy (National Cancer Institute, 2005). The table below presents only a sub-set of these levels, which were available in the Status of the Youth Survey data. These include family structure, location of childhood residence, the family economic situation and whether the child dropped out of school before becoming pregnant.

The logistic regression analysis outlined below predicts the probability of a woman experiencing an early pregnancy, under given social conditions. For example, a woman who grew up with both her mother and father has 71 out of 100 chances of experiencing a pregnancy (indicated by the odds ratio on the table) compared to a woman who grew up with other relatives. Only factors that have significance value (indicated in the table as sig) lower than 0.05 are regarded as having an impact on teenage fertility i.e. we are 95% confident that the difference ascribed to the social condition is unlikely to have occurred by chance.

Table 13: Selected social factors related to early pregnancy among women in SA, 2003

Variable	B	SE	Sig.	Odds Ratio
Family structure				
Other Relatives®				
Both mother and father present	-0.336	0.117	0.004	0.715
Mother only	-0.255	0.125	0.041	0.775
Father only	0.375	0.319	0.240	1.454
Childhood residence				
Farm®				
Formal city	0.282	0.237	0.233	1.326
Informal city	0.520	0.257	0.043	1.682
Rural area	0.349	0.235	0.138	1.417
Childhood financial situation				
Having enough basic needs when growing up®				
Not having enough basic needs	0.158	0.085	0.061	1.171
Dropout from school				
Remained at school®				
Dropped out early from school	0.663	0.085	0.000	1.940

Source: Status of Youth Survey, 2003

Table 13 above shows that pregnancy among young South Africans is significantly influenced by the family structure, type of childhood residence, and incomplete education. Young people who grew up in families with both parents were least likely to experience early pregnancy. Presence of the mother is generally beneficial in terms of preventing early pregnancies. Young people who grew up in informal settlements compared to other type of residential areas were at highest risk of experiencing early childbearing. In addition, early school dropout almost doubled the odds of teenage childbearing.

The results outlined above indicate that a complex set of factors are related to teenage pregnancy necessitating multilayered intervention strategies. Structural interventions that are aimed at retaining girls in school and mitigating factors associated with dysfunctional families and neighbourhoods are required.

Profile of male partners

Fathers have traditionally played the role of provider in the lives of their children (Bunting & McAuley, 2004; NRC & IOM, 2005), and when they are absent it places tremendous pressure on the teenage mother (De Villiers & Kekesi, 2004). Many of the negative life outcomes brought about by teenage pregnancy are better managed when the father has strong emotional ties to the child and provides support to both the mother and the child (Larson *et al.*, 1996; Wiemann *et al.*, 2006). By far the majority of studies on early parenthood focus

on young women, shedding little light on the men who have impregnated them and rendering them as 'invisible or absent' (Bunting & McAuley, 2004; Coleman, 1998). When information is available about teenage fathers, it is usually from the perspective of the teenage mother (Landry & Forest, 1995; Reeves, 2007; Swartz & Bhana, 2009), and often presents men as perpetrators (Madhavan, Townsend & Garey, 2008; Morrel, 2007; Pattman, 2007).

A new genre of research on fatherhood in SA, however, has questioned the constructions of African males, in particular, as bad and sexually irresponsible (Madhavan, Townsend & Garey, 2008; Richter & Morrel, 2006; Swartz & Bhana, 2009). While being a provider is a deeply entrenched definition of what it means to be a father in SA, the changing socio-economic landscape where more and more workers live with their families, means that fathers can begin to extend their role beyond providers to carers, and being more engaged in their children's lives (Morrell & Richter, 2006). It is this role of father as carer and protector that prompted an advocacy campaign in SA, titled the Fatherhood Project that aimed to gather information about the role that men are playing in their children's lives together with generating new knowledge about fatherhood.

As a result, a growing body of literature is now available on fatherhood in SA. However, little information is available on who *young fathers* are and how they experience early parenthood. While inferences can be drawn from the limited body of literature in the US and UK, a recent qualitative study among Black and Coloured young men from impoverished communities in Cape Town and Durban provides invaluable insights into the experiences of young fatherhood (Swartz & Bhana, 2009).

Who are young fathers?

Few studies have examined the risk factors associated with early fatherhood, yet the available evidence suggests that young fathers' risk profile is no different than that of young mothers. Studies from the US and the UK indicate that young fathers tend to be poor, continuing the intergenerational cycle of teenage fatherhood (Bunting & McAuley, 2004; Coley & Chase-Landsdale, 1998). Young fathers also report low educational attainment and come from low income communities. As a result, they seldom have the financial resources to support the child and the mother. Poor educational performance has been identified as a powerful predictor of young fatherhood, and similar to young women often predates fatherhood (Dearden, Hale & Woolley, 1995).

In fact, secondary analysis of the HSRC 2003 Status of Youth Survey shows, that early school dropout is significantly associated with fatherhood in the teenage years. As with young women, premature exit from the schooling system almost doubled the odds of young men fathering a child early on.

Table 14: Selected social factors related to early pregnancy among young men in SA, 2003

Variable	B	SE	Sig.	Odds Ratio
Family structure				
Other Relatives®				
Both mother and father present	-0.144	0.138	0.298	0.866
Mother only	0.082	0.153	0.593	1.086
Father only	0.406	0.316	0.199	1.501
Childhood residence				
Farm®				
Formal city	0.203	0.312	0.516	1.225
Informal city	-0.179	0.354	0.613	0.836
Rural area	0.320	0.312	0.306	1.377
Childhood financial situation				
Having enough basic needs when growing up®				
Not having enough basic needs	0.060	0.115	0.603	1.061
Dropout from school				
Remained at school®				
Dropped out early from school	0.621	0.114	0.000	1.862

Source: Status of Youth Survey, 2003

Low socioeconomic status is a significant predictor of teenage pregnancy among both young male and female parents. The concentration of poverty among African-American communities in the US means that young men from these communities are more likely to father children while under the age of 20 compared to other race groups (Clark, Zabin, & Hardy, 1984; Rivara, Sweeney & Henderson, 1987). Given the high levels of socio-economic disadvantage and teenage pregnancy among African and Coloured communities in SA, it can be reasonably assumed that early fatherhood would concentrate in these communities. However, determinant studies are required to map the profile of young fathers in SA.

Two schools of thought have been put forward about the age of male partners. While some studies report that partners of teenage mothers are themselves teenagers, others report partners as being older. Larson *et al.*, (1996) indicated that the mean age of male partners was 19.5 years, while Taylor *et al.*, (1999) showed that teenage mothers were impregnated by males who were at least eight years older than themselves. In fact, a review of the antecedents of teenage pregnancy in the US reported involvement with older male partners as a significant risk factor for early pregnancy (Kirby, 2007). Regional data on age patterns of first parenthood showed that very small percentages of young men in Eastern and Southern Africa (1.7%) report early fatherhood (NRC & IOM, 2005). Although the low percentages may be indicative of the inability of men to verify paternity, the small proportion might also be an indication that teenage girls are impregnated by older men.

Mixed reports with regards to the age of male partners are also provided in SA. Several South African studies (Wood *et al.*, 1997; Jewkes *et al.*, 2001) have indicated that boyfriends of pregnant teenagers tend to be older. However, the 2003 RHRU national survey indicated that two thirds of young women were in fact involved in sexual relations with their peers (Pettifor *et al.*, 2005). While only 9.7% of females were involved with a male partner of the same age, 57.7% reported that their partner was 1-4 years older and 32.6% reported that their most recent partner was at least 5 years older.

Attitudes towards early fatherhood

Much like young women, young men report a strong emotional response – of shock, fear, shame and embarrassment, on hearing about their impending fatherhood (Swartz & Bhana, 2009). While most teenage fathers involved in the study were not ready for fatherhood, they expressed a deep sense of responsibility for the child and a willingness to be actively involved in the child's life. Unlike reports from the perspective of young women, few young men spoke of denying paternity. In the context of multiple sexual partnerships these young men were uncertain if they were the father of the child. In addition, they expressed a fear of being stigmatized by the teen mothers' family due to their inability to provide financial support to the child.

For young men interviewed by Swartz & Bhana (2006), being a father had little to do with proving fertility and masculinity as with being present ('being there'), talking to and guiding children, and providing financial support. A qualitative study among young Zulu school students also reported that fatherhood was not about affirming masculinity or social standing, but about 'being there' and providing for their children (Morrell, 2007). Studies in the US and UK also report on the sense of responsibility that young men associate with fatherhood and the strong desire to be actively involved in the lives of their children (Bunting & McAuley, 2004).

Both local (Swartz & Bhana, 2009) and international (Bunting & McAuley, 2004) studies show that the key motivation to be present and to participate in their children's lives is the absence of their own fathers. South Africa has a sizeable proportion of 'hidden fathers', especially among the Black population (Posel & Devey, 2006). In 2002, an estimated 55% of Black children living in rural areas had absent fathers (Posel & Devey, 2006). The notion of absent father has its roots in the historical migrant labour system where Black men migrated to urban areas in search of work without their spouses and children (Montgomery *et al.*, 2006). Although the migrant labour system persists in contemporary society, high levels of unemployment also serve as a significant barrier to young Black men paying *ilobolo* (bridewealth). As a result, marriage is delayed and care for children is often compromised.

Barriers to teen fatherhood

Despite the deep sense of responsibility expressed by young fathers towards their children in the study by Swartz & Bhana (2009), a number of factors serve as barriers to them fulfilling their role as father (see Table 16). Chief amongst these is the carer versus financial provider role, poor relationship with the female partner and her family, and cultural factors related to negotiation of paternity and ongoing responsibility for the child.

Table 15: Factors affecting young fathers' wellbeing and participation in parenting

- The cultural measure of responsibility equated with money
- Young men's view of money dominant over practices and qualities
- Rejection by mother of child's family
- High unemployment rates
- Multiple concurrent partnerships amongst young men
- Ignorance about basic biology and contraception
- Foreshortened view of the future
- Parents hijacking young fathers responsibility
- Geographical separation between father and child
- The failure of services and sex education

Source: Swartz & Bhana, 2009

Even though young men identify both caring (being present and talking) and provider roles as what it means to be a good father, in practice, caring is overtaken by the deeply entrenched need to provide for the child financially. 'Father as the provider' is what was role modelled by their own fathers (or a role that they want to change because of their father absence) and is what is generally viewed as the traditional role of fathers. More modern conceptions may be challenging this uni-dimensional role of fathers, but nevertheless still takes on a secondary role to financial provision. Studies in the US and UK also highlight the strong provider role that young fathers adopt (Coley & Chase-Landsdale, 1998; Bunting & McAuley, 2004; Speake, Cameron & Gilroy, 1997). This is often in conflict with the view of young women who view male partners as absent because of their failure to assist with child-rearing responsibilities. But taking on financial responsibility is often beyond the reach of young men in SA because of incomplete education and high levels of unemployment. As a result, they 'feel small' - 'like a kid' because of their inability to care for their children financially. Such a discourse is indicative of the fractured transitions and internal conflict that young people face when parenthood precedes education and work. While parenthood may confer the status of a man, the lack of education and work opportunities to fulfil the role of provider, renders them a boy.

Families, together with the relationship with the mother of the child, also play a seminal role in the level of involvement that a young father enjoys in his child's life. While mothers of young fathers are recognised as significant sources of emotional and financial support, they may inadvertently prevent young men from taking on responsibility for their children in an attempt to protect their educational opportunities. The young women's family, however, particularly, her mother and male members of her family, were considered to be the biggest hindrance to young men taking on fatherhood responsibilities. Often young men are denied access to the child when he has a falling out with the teen mother or because he is considered an unsuitable partner for the teenage mother. Studies from the US have also indicated that mothers are a significant source of support for young fathers but that conflict with the mother of the child, and particularly, maternal grandparents are a significant barrier to a young father's continued involvement in the life of his child (Miller, 1994; Miller, 1997; Rhein *et al.*, 1997).

In SA, cultural rites, intended to facilitate access to children, can sometimes also serve as a barrier to young men establishing relationships with their children (Swartz & Bhana, 2006). As alluded to earlier in the report, acknowledgement of paternity in the African population rests with the male's family and is negotiated through 'damage' payments to the teenage mother's family as a compensation for early pregnancy. Young fathers are

often not included in the negotiations because they seldom have completed initiation rites that afford them the authority and standing to participate in such processes. In addition, often they do not have the financial means to make damage payments. In ceding responsibility for damage payments to families, young men inadvertently also cede responsibility for childcare arrangements. In such a context, despite good intentions, young fathers often become estranged from their children.

Just like young mothers, young fathers require support to improve their educational and economic circumstances in order to fulfil caregiver and provider roles. In the absence of institutional support, families play a critical role in cushioning the blow of early fatherhood by taking on care-giving roles. But in some cases, cultural practices that govern family responses –no doubt well intended, serve to estrange young men from their children. While a greater understanding of culture and continued father involvement in children’s lives is warranted (Swartz & Bhana, 2009), together with much more empirical data on young fatherhood, other policy options may have to be considered to ensure paternal support for children. These include gender-based interventions that extend the repertoire of fatherhood beyond ‘providing’ to being ‘present and talking’, especially in impoverished conditions where unemployment and poverty is high. In addition, consideration should be given to legal child support arrangements, much like in the US, where legislative interventions have resulted in increased levels of paternal involvement among children of teenage mothers (Coley & Chase-Lansdale, 1998). SA does have the child support grant and Maintenance Act of 1998, but both do not accommodate teenage fathers. This represents a missed opportunity for increasing support to the child.

Policy and Programmes

Determining the best policy and programme direction for teenage pregnancy requires sober reflection on the 'complexity and kaleidoscopic nature of the problem' (Brindis, 2006). Kirby (2007) in a recent comprehensive review of interventions to prevent teenage pregnancy and STIs in the US offers some guidelines about where and with whom to intervene. The review identified more than 500 factors that influence adolescent sexual behaviour. Some of these are inherent to who the young person is, but many more are rooted in the context in which young people grow up - families, partners, peers and communities. As such, single strategies directed at individuals will not radically change the trajectory of teenage pregnancy and STIS. Nevertheless, they are an important part of the mix of interventions because *all* young people at some point in their lives will encounter their sexuality. Having complete and accurate knowledge and the right mix of skills will assist them in making health-promoting decisions. Some young people, however, are at increased risk for pregnancy because of the imbalance in protective and risk factors, often linked to multiple sources of disadvantage in the homes and communities in which they grow up. For these young people, targeted and intensive programmes will be required to alter negative trajectories.

Some realism must also be applied to factors that are amenable to change and those that are not and, particularly, what might be the most effective contribution that a particular sector can make to such a multi-faceted problem. To reduce risk for teenage pregnancy requires comprehensive interventions in the school, the home, the healthcare setting, in communities and society at large. Because the strongest and most proximal determinants of sexual behaviour, and those most amenable to change, are young people's knowledge, attitudes, norms and confidence in their skills, prevention programmes should focus on evidence-based education programmes. These need to be supported by interventions among partners, peers, families and siblings – the most proximal role models for adolescent sexual behaviour. Although non-sexual risk factors are modestly related to teenage pregnancy and STIS, some of these can be modified and should be addressed through interventions.

But the context also needs to be taken into account in deciding on the mix of interventions. Although the evidence on risk factors for early pregnancy are not as advanced in SA as in the US, available evidence suggests that structural factors such as poor educational and economic prospects and cultural constructions of femininity and masculinity, underpinned by gender imbalances, create disincentives for, and disempower, women to protect themselves against pregnancy. While these factors are not readily amenable to change, should we choose not to invest in changing them, radical changes in teenage pregnancy, STIs and HIV will not be achieved. Sexuality is a shared activity between two partners. It makes little sense to empower women about their sexuality without concomitant efforts to empower young men.

Although strong arguments exist for the thrust of interventions for adolescents to focus on prevention, the unabated and increasing levels of marginalisation of young people across a range of domains (education, employment, health and wellbeing and civic engagement) provide impetus for a more systematic focus on treatment, care and support. Termed, *second chances*, by the *2007 World Development Report – Development and the Next Generation* (World Bank, 2006), the approach recognises the extent to which policy and programmatic failures, rather than poorly informed choices by youth alone, have borne a heavy burden on young people resulting in their increased marginalisation (World Bank, 2006). Even if we instituted the most rigorous prevention programmes, some young women will experience early pregnancy. Although remediation is costly and difficult to achieve, it far outweighs the costs to a society of lost human capital potential. A systematic and more formalised system of support is required for those who do become pregnant. Such programmes of

support need to reach beyond addressing the health consequences of pregnancy to mitigating the educational, economic, educative and social challenges that young mothers and fathers face.

The following section outlines both prevention and second chance policies and programmes for teenage pregnancy. Clearly, given the strong prevention focus among adolescents, the weight of the evidence will be biased towards prevention. However, examples of second chance programmes will be outlined where they exist. Within the prevention realm, strongest evidence is available for curriculum-based intervention and most of these have been instituted in the school setting. Given that the report is being prepared for the Department of Education, the review will focus primarily on school-based or school-linked interventions. It must be noted, however, that while substantive evidence for the effectiveness of health policy and programmes are available from the US, as indicated earlier, the empirical evidence supporting the effectiveness of interventions in developing countries is thin at best and supports only tentative conclusions about effectiveness (NRC & IOM, 2005). In addition, while a few studies are focused on unintended pregnancy, most are in fact focused on STIs and HIV.

Prevention programmes

School-based sex education

The high enrolment rates of adolescents in the school setting, provides an important access point for interventions on sexual and reproductive health. Most young people who are engaged in school have not initiated sexual activity and for some, schooling coincides with the onset of sex. As such, the high coverage of adolescents in the school setting provides an important leverage point to delay the onset of sex and to ensure that those who are sexually active are able to adequately protect themselves (Kirby, Obasi & Laris, 2006).

A review of 56 curriculum-based programmes in the US – half of which were implemented in the school setting, reported that there is strong evidence that sex education can both delay and promote safe sex (Kirby, 2007). Two thirds of the programmes reviewed had a significant impact on at least one aspect of sexual behaviour, or lowered rates of pregnancy, childbearing, or STIS. While the 48 comprehensive programmes that focused on both abstinence and contraceptive use showed strong positive effects on sexual behaviour and importantly, did not increase sexual behaviour, the eight abstinence only programmes showed no impact in delaying sexual initiation. About two thirds of the comprehensive programmes, on the other hand, delayed the initiation of sex, reduced the frequency of sex and number of partners, increased condom and contraceptive use or reduced risky sexual behaviour. As such there is strong empirical support for comprehensive programmes that focus on both abstinence and contraceptive use rather than abstinence only programmes.

But the programmes reported only modest effects on sexual behaviour, pregnancy or STI rates. The most effective programmes reduced risky sexual behaviour by about a third. In addition, durability of programme effects was not sufficiently demonstrated. While effects of a few programmes lasted for years, most did not measure long-term impact. What is noteworthy, however, is that comprehensive programmes were equally effective and replicable with a variety of communities in different settings (e.g., urban vs. rural, low vs. middle income and boys vs. girls). While education programmes are not the panacea for pregnancy, STIs and HIV, they can play an important role as part of a comprehensive strategy to positively influence sexual behaviour (Kirby, 2007).

In reviewing 19 of the most effective curricula for sex-based education, Kirby (2007) identified 17 characteristics that were common to these programmes. These characteristics, presented in Table 17, can be clustered into

three categories: the process of developing the curriculum, the content of the curriculum and the process of implementation.

Table 16: Characteristics of effective curriculum-based programmes

Process of developing the curriculum	Content of curriculum	Implementation of the curriculum
Involve multiple people with expertise in theory, research, and STI/HIV education to develop the curriculum	Focus on clear health goals e.g., prevention of STI/HIV/pregnancy or both	Secure support from the appropriate authorities, such as departments of health, school districts or community organisations
Assess the relevant needs and assets of the target group	Focus narrowly on behaviour leading to goals e.g., using condoms, give clear messages about behaviour and address situations that lead to them and how to avoid them	Select educators with desired characteristics (where possible), train them, and provide monitoring, supervision and support
Use a logical model (health and psychosocial theory) to specify health goals, behaviours that affect goals, risk & protective factors affecting behaviour and activities to change risk and protective factors	Address sexual risk and protective factors that affect sexual behaviour (e.g., knowledge, perceived risk, value, attitudes, norms and self-efficacy) and change them	If required, implement activities to recruit and retain adolescents and to overcome barriers to participation (e.g., publicise the programme, offer food or obtain parental consent)
Design activities consistent with community values and available resources (e.g., staff time, skills, space and supplies)	Create a safe space for young people to participate	Implement virtually all activities with reasonable fidelity
Pilot test the programme	Include multiple activities to change risk and protective factors	
	Use instructionally sound teaching methods that actively involve participants, help them personalize information and designed to change risk and protective factors	
	Use activities, teaching methods, and behavioural messages appropriate to the adolescents culture, developmental age, and sexual experience	
	Cover topics in a logical sequence	

Source: Kirby, 2007

A few reviews have been undertaken on sex-based (or specifically school-based) education programmes in developing countries (see for example Kaaya, Mukoma, Flisher & Klepp, 2002; Kirby, Laris & Rolleri, 2005; Gallant & Maticka-Tyndale, 2004; Speizer, Magnani & Colvin, 2003). While these reviews were able to demonstrate the positive effect of school-based programmes in improving knowledge, they did not demonstrate strong effects on improving skills, changing values and norms, and changing behaviour. More recently, Kirby, Obasi and Laris (2006), undertook a systematic review of 22 interventions that used either experimental or quasi-experimental designs with the purpose of filling the gaps of previous reviews.

There was strong evidence for the effect of school-based sex education and HIV education interventions on adolescent sexual behaviour. While the interventions did not increase sexual activity, they did report positive effects in delaying sexual activity, reducing the number of sexual partners, reducing the frequency of sex and increasing condom and contraceptive use. There was also ample evidence for the effect of programmes on knowledge but less consistent effects of the programmes on improving skills or changing values, attitudes and peer norms. The strongest evidence for programmes that had an impact on behaviour was curriculum-based and led by adults (either teachers or other adults such as health workers). Only two curriculum-based programmes were implemented by peers, one of which showed some evidence for positive impact on sexual behaviour. In line with evidence from developed countries (Kirby, 2007), the most effective curriculum-based interventions incorporated four fifths of the 17 criteria identified for effective sex education in Table 17 above. In addition, like developed countries, findings were shown to be robust, in that they were equally effective among different subgroups in different settings. Despite the strong effect of interventions on sexual behaviour, only 1 study measured the effect of programmes on STI rates and pregnancy and showed no impact. The review concluded that given the strong evidence of programmes in improving knowledge and reducing sexual risk behaviour, school-based interventions that are curriculum-based, led by adults and incorporate most of the characteristics of effective programmes described in Table 17 should be taken to scale. However, there is a need for many more rigorous evaluation studies of school-based interventions involving large enough sample sizes to detect effects, and that specifically measure impact of programmes on biological outcomes such as STI, HIV and pregnancy rates.

A systematic evaluation of school-based sex/HIV education programmes in SA was undertaken by Mukoma and Flisher (2008). Although not directly focused on teenage pregnancy, life skills programmes introduced in schools in response to the explosion of the HIV epidemic in the 1990s have the potential to influence the trajectory of teenage pregnancy. Life skills programmes were introduced in schools to increase learner's knowledge of HIV, improve their skills for engaging in health relationships by improving communication and decision-making ability and to shift attitudes about people living with HIV and AIDS. A range of factors limit the number of firm conclusions that can be reached about the overall effectiveness of programmes in SA. Mukoma & Flisher (2008) were only able to identify a small number (12) of evaluation studies, only two of which were conducted in the past five years and most of which (5) were undertaken in the Western Cape. They generally involved small sample sizes of students and schools and the variability in how and by whom they were designed and implemented, their duration, intensity, and the questions used in the evaluation, make comparison across studies difficult. In addition, the weak design of evaluation studies (very few involving control groups and lack of follow up post intervention beyond 2 months) make it difficult to assign changes in behaviour to the interventions. In general, while programmes did show positive effects on knowledge, attitudes and communication about sexuality, they had little or no effect on behaviour.

While the lack of effects may in part be attributed to the design of the programme itself and how the evaluation studies were conducted, the degree to which the programmes were implemented as intended also needs to

be investigated. This could not be thoroughly assessed in the review by Mukoma and Flisher (2008) as most studies focused on outcomes evaluation to the neglect of process evaluation that would provide such insight. However, a few South African studies have alluded to the failure to implement programmes fully in schools as one of the reasons for their limited effects (James *et al.*, 2006; Magnani *et al.*, 2005; Visser, 2005). James *et al.*, (2006) showed only an increase in knowledge about HIV in their evaluation of a life skills programme in KwaZulu-Natal. However, when their analysis was restricted to schools that had fully implemented the programme, more positive effects were reported on perceptions of sexual behaviour, social connectedness, levels of sexual activity and condom use.

Failure to implement programmes as intended may be related to teachers' attitude, skill and preparedness to teach sex/ HIV education as well as the level of priority afforded to, and acceptance of sex education within the education system. A recent evaluation of teacher training on an AIDS prevention programme in schools showed that despite intensive training, teachers lacked adequate and accurate knowledge on HIV, they struggled with non-didactic methods of teaching required for skills development such as role play, and they showed discomfort in teaching areas of the curriculum (such as safe sex practices) that conflicted with their own value system (Ahmed *et al.*, 2006). The study recommended that sexuality education should be integrated into undergraduate teacher training courses to improve their knowledge, skills and comfort in teaching about HIV (Ahmed *et al.*, 2006). In addition, Visser (2005) also reported on the lack of commitment towards the programme by teachers and principals, organisational problems in schools (lack of allocated time and human resources) and competing priorities in the school system that contributed towards limited implementation of programmes. A shift in the climate of the education system that is supportive of, and views sex education as a priority, is required for programmes to be effectively implemented (Visser, 2005).

Although the evidence for the effectiveness of sex education in SA is not as convincing, the available international experience suggests that the question is not whether sex education should be provided but how its effects can be optimised (Mukoma & Flisher, 2006). Incorporating as many of the characteristics that make for good programmes may assist in improving the outcomes of sex/HIV education in SA. In addition, well designed evaluation studies are required in SA to demonstrate and improve the effectiveness of school-based sex education programmes. To ensure a distinct focus on pregnancy, life skills evaluation studies should also include responsibilities of parenthood, knowledge and skills required for successful parenthood, together with the importance of planning for, and timing of parenthood (NRC & IOM, 2005).

School based/linked health services

A limited number of studies have evaluated the effectiveness of school-based / school-linked health services in the US as well as the distribution of condoms in schools and the evidence is mixed (Kirby, 2007). School-based clinics are either available on the school premises or are located close to the school. While more than 80% of school clinics provide a range of reproductive health services, only about 25% dispense hormonal contraception or condoms (Kirby, 2007). Providing contraceptives through school-based clinics and making available condoms in schools *do not* increase the onset or frequency of sex. Instead, when contraception is available through school clinics and condoms can be obtained easily and confidentially on school premises, many sexually active students make use of these services. But obtaining contraception from school-based sources is dependent on how widely it is available in the community. Studies that showed an increase in condoms obtained from school sources also reported a concomitant decrease in condoms obtained from other sources in the community. As such, a substitution effect occurred. In other words, schools can be an important source of condoms when they are not readily available from other sources in the community.

The evidence from the US for increased contraceptive use and decreased childbearing as a result of school-based or school-linked health services is both weak and mixed (Kirby, 2007). More promising results were reported in two school and health facility-based programmes in developing countries (NRC & IOM, 2005). While the study in Nigeria reported increased condom use and decreased self-reported symptoms of STIs, the study in Chile reported an increase in the age of sexual debut among males and increase in contraceptive use among girls. However, the latter study did not improve the use of contraceptives at last sex, neither did it improve the volume of young people attending health facilities during the two year follow up period.

Parenting

As the primary socialising agents for children, parents are well positioned to influence the sexual behaviour of their children. Yet parents and adolescents seldom discuss sexuality because of the discomfort related to talking about sex. A number of interventions have been trialed in the US to improve parent-child communication and a limited number of studies have focused on improving parenting involvement and monitoring. While studies report difficulty in recruiting parents into multi-session programmes, when they do participate, parents increase their own comfort in talking about sex and in communicating with their children about sexuality in the short-term (Kirby, 2007). In addition, while the available evidence of the impact of such interventions on adolescent sexual behaviour is limited, it does suggest that parent-child programmes can influence sexual behaviour, particularly condom use (Kirby, 2007).

As discussed earlier, a randomised control trial in rural KwaZulu-Natal to strengthen family relationships and social capital in the community as a protective shield against HIV, showed strong effects among parents and community processes but less so on young people (Bell *et al.*, 2008). The programme was able to increase caregiver comfort in talking about sensitive issues with their children, improve monitoring and control of children's whereabouts and strengthening support networks among community members to exert informal social control. However, among youth, the programme effects were limited to improved knowledge on HIV transmission and less stigma towards people infected with HIV. As the intervention focused on pre-adolescents, outcomes in terms of sexual behaviour were not appropriate for the study.

Much more research on programmes for parents and their children is required before firm conclusions can be reached about their effectiveness and widespread application (Kirby, 2007).

Peer programmes

Peer programmes have gained currency over the years as a strategy to intervene with adolescent sexual and reproductive health because it takes advantage of existing networks of communication and interaction, and because peers have been identified as important determinants in adolescent sexuality and a range of adolescent risk behaviours. Peer programmes, generally recruit and train a core group of young people who, in turn, serve as role models, and sources of information and skills development on adolescent sexuality (Speizer *et al.*, 2003). Peer educators have participated in a number of multi-component programmes – as a complement to teachers in school-based programmes, to distribute condoms outside of health services, to create demand for health services in community-based settings, and in a number of mass media interventions (Speizer *et al.*, 2003). Even though peer education is widely diffused programmatically both locally and internationally, it has not been defined conceptually (Shiner, 1999) and its theoretical underpinnings are yet to be clarified (Turner & Shepherd, 1999). The lack of clarity about the processes and mechanisms that lead to successful programmes as well as standards of practice for peer education means that new modalities are constantly invented with little

evidence for its effectiveness which ultimately impedes evaluation and scale up (Bastien, Flisher, Mathews & Klepp, 2006; Deutsch, Michel & Swartz, 2003).

A review of peer education programmes in sub-Saharan Africa reported a massive increase in the number of programmes since the 1990s but few methodologically sound evaluation studies to support its increasing popularity (Bastien *et al.*, 2006). Although studies report positive outcomes, they are generally focused on knowledge, attitudes and beliefs and number of peer educators that have been trained using relatively small sample sizes. In addition, few studies use robust designs and include biological outcome measures such as STI/HIV and pregnancy. Studies also do not provide an adequate description of the process of setting up the intervention including recruitment of peer educators and content of training. The use of peer education as part of multi-component interventions makes it difficult to attribute effects to the peer education component of the programme.

A review of three peer interventions in Peru, Ghana and Cameroon that were located in the school and community settings, showed consistent positive impact on psychosocial factors such as knowledge, attitudes and self-efficacy and some evidence for effects on sexual activity, contraceptive use and condom use (Speizer *et al.*, 2003). Non-experimental studies are also indicative of declines in unplanned pregnancies, number of sexual partners and increase in condom use among university students. However, given the developmental process that peer educators are undergoing, the largest effects of programmes are often on peer educators themselves and the cost of regularly having to recruit and retrain peer educators may be prohibitive (NRC & IOM, 2005). In fact, a well designed, multi-component adolescent sexual and reproductive health programme in the Mwanza region in Tanzania, showed that rural learners in primary schools lacked the cognitive ability and skills to transfer knowledge to peers (Bastien *et al.*, 2006). The study concluded that the peer component of the programme was not feasible because of the cost of retraining groups of peers as opposed to investing in teacher training. While peers could facilitate some aspects of the training such as ice breakers around sensitive issues and drama performances, careful consideration would have to be given to matching the activities of peer educators to their abilities.

Given the scale of the HIV epidemic among young people in SA, the country has invested in defining standards of practice for, and evaluation of peer education programmes. Termed 'Rutanang' – a Sotho word meaning '*learning from one another*', the process has resulted in a set of guidelines for the development, implementation and evaluation of peer programmes (Deutsch & Swartz, 2002). The guidelines identify four roles for peer educators:

- Educating peers in a structured manner;
- Serving as role models for healthy behaviour;
- Identifying youth who need assistance and making necessary referrals; and
- Serving as advocates to secure resources for themselves and their peers.

The guidelines identify ten elements that are essential for peer education programmes in SA. These include: (1) planning and needs assessments; (2) mobilising the necessary support from relevant stakeholders; (3) setting up supervisory infrastructure for peer educators; (4) identifying linkages for referral; (5) developing a learning programme that goes beyond awareness raising; (6) setting up infrastructure for selecting, training and

contracting peer educators; (7) managing peer educators and supervisors; (8) providing means of recognising and credentialing peer educators; (9) monitoring and evaluating outcomes; and (10) ensuring the sustainability of programmes.

A recent evaluation study of peer education programmes in SA indicated that a large number of programmes are being implemented using a variety of methodologies to inform programme design (Ward *et al.*, 2007). While a number of settings are used (schools, universities, youth clubs, social meeting spaces, shebeens and nightclubs) most programmes are school-based or target school-going youth. Even though the majority of programmes target secondary school learners, they are largely focused on abstinence messaging. This often does not match the sexual behaviour of peer educators or of the target audience of the programme. The review concluded that when the Rutanang guidelines are used to guide the development and implementation of programmes, they result in sound interventions. However, the study indicated that beyond curriculum design, most interventions that were included in the review did not use the guidelines for conducting needs assessments, setting up referral systems, or for monitoring and evaluation, probably because they were not a requirement of their funding compacts or that these components of the programme were more technically challenging. Although impact evaluation studies were rare, anecdotal evidence suggests that well developed programmes have the ability to impact on self-esteem, confidence and resistance of peer pressure for both participants and peer educators. There is also some evidence for behaviour change in terms of secondary abstinence, condom use and remaining faithful to one partner. These findings need to be confirmed through well designed evaluation studies but nevertheless provide support for the use of peer education programmes for adolescent sexual and reproductive health in SA.

In fact, evidence from loveLife, South Africa's largest public health intervention for HIV and AIDS among young people, suggests that participation in peer education programmes are contributing towards the development of a new generation of leadership from the most marginalised communities. loveLife has trained 1200 young people as peer educators – known as groundbreakers between 2001 and 2005. These peer leaders, together with local volunteers (known as mpintshis), engage in local mobilisation in over 700 communities and 4000 schools. A recent survey among peer leaders indicates that participation in the programme has increased education, employment and civic engagement opportunities among these young people well beyond the national norms for this age group and that a significant percentage are taking up leadership roles in community structures (VOSESA, 2008). For example, whereas 45% of groundbreakers were pursuing further studies, only 30% in this age group were doing so nationally. In addition, whereas 75% of young people nationally are not involved in community organisations, 55% of groundBREAKERS continue their community work after graduating from the programme. GroundBREAKERS also report a strong future orientation, positive sense of self and greater confidence in building the networks that are necessary to attain future goals. They also report much more egalitarian views towards men and women's roles in relationships and the ability to successfully negotiate relationships with partners and peers.

Sexual and reproductive health services

Access to family planning services

Family planning services are provided to young people with the purpose of making available reproductive health services, providing contraception including condoms and improving their knowledge and skill to use them (Kirby, 2007). While there is evidence from the US that substantive numbers of young people make use of family planning services (up to 40% of 15-19 year olds in the US), the evidence on the impact of such services

on sexual behaviour and pregnancy is limited (Kirby, 2007). Evidence from the Family PACT programme in California showed that providing comprehensive family and reproductive health services to young people at no cost, resulted in a three-fold increase in the use of services by adolescents from 99 739 visits per year to over 300 000 visits per year. No doubt the increased availability and use of contraception by young people through such services averts many unintended pregnancies. However, long-term evaluation studies are required to demonstrate the positive link between family planning services and sexual behaviour.

Young people in SA have benefited from a number of health policies directed at the population at large. A number of interventions have been instituted within the rubric of family planning services. In particular, contraception has been made available at primary healthcare clinics and other mobile services at no cost since 1974. While vertical family planning services were directed primarily at Black population control during *Apartheid*, post-1994 significant efforts have been made to promote a human rights and integrated approach towards reproductive health care (DOH, 2001). Dramatic increases in the use of contraception are indicative of the success of family planning services, although the quality of care has not always been optimal. As indicated earlier, contraceptive use, particularly condom use, has increased significantly since the 1998 SADHS (DOH, MRC & Measure DHS, 2002). In fact, most young people feel confident about being able to easily access condoms if they need to (Pettifor *et al.*, 2004). Government clinics and hospitals are the principal source of condoms for over 70% of young people (Shisana *et al.*, 2005).

But over half of sexually active young people do not use contraception when they have sex. While a range of socio-cultural factors determine contraceptive use, one of the principal reasons for non-use, is that sex is often not planned (Kirby, 2007) and happens on the spur of the moment (Jewkes *et al.*, 2001). While emergency contraception cannot be used as a regular form of contraception, it can dramatically reduce the chances of pregnancy if used within 72 hours after sex (Kirby, 2007). Four studies in the US found that providing emergency contraception to young women in advance dramatically increased its use but did not produce the negative effects of increasing sexual activity (Kirby, 2007). Sample sizes were too small to detect effects on pregnancy rates. Although strong recommendations are made for the extensive promotion and ready availability of emergency contraception within the *Policy Framework for the Provision and use of Contraception in SA* (DOH, 2001), legal regulations (must be bought over the counter from a health professional) and, particularly, the negative and judgemental attitude of health staff (Wood & Jewkes, 2006) prevent young people from using this contraceptive method. Given its safety and efficacy (DOH, 2001), consideration should be given to deregulating emergency contraception in SA in order to increase its availability and usage.

Adolescent friendly services

One of the earliest health interventions instituted by the democratic government in SA was the provision of free healthcare (including contraception) at primary healthcare clinics as well as to pregnant and lactating women and to children until 6 years. However, for various reasons, related to accessibility and acceptability of services as well as fear and shame regarding teenage pregnancy, young women avoid accessing family planning services or delay accessing antenatal services until very late in their pregnancy (Richter, Norris & Ginsberg, 2006). Over two decades of research have demonstrated the various barriers that young people face when trying to access health services (Tylee *et al.*, 2007). These include:

- *Availability:* lack of primary healthcare services and restrictive laws and policies that prevent adolescents from accessing certain services;

— Teenage pregnancy in South Africa - with a specific focus on school-going learners —

- *Accessibility*: lack of convenience in terms of long travelling distances, inconvenient opening times, costs of services and poor knowledge of services being offered;
- *Acceptability*: lack of trust in, and confidentiality by, health workers, poor physical environment of the clinic that does not lend itself to maintaining confidentiality, judgemental attitude of health workers and poor quality of health services; and
- *Equitability*: services are friendlier to youth from high socioeconomic groups than youth from disadvantaged backgrounds such as young people living and working on the streets

Health services can play an instrumental role in sexual and reproductive health of adolescents when services are youth friendly: that is they are accessible, acceptable, appropriate, effective and equitable (WHO, 2002). Access to healthcare, particularly reproductive health, is a human right obligation and, in particular, critical for reducing the impact of the HIV and AIDS epidemic (Dick *et al.*, 2006). As such, over the past two decades, there has been growing awareness of the need to make health services more responsive to the needs of adolescents. However, available data to monitor health service provision is weak and what data is available suggests that there has been slow progress in increasing access to services to all young people and those most at risk (Dick *et al.*, 2006).

A recent review of 16 evaluation studies on the provision of health services to young people in developing countries, 12 of which were in Africa and one in SA, reported that a combination of strategies are used to improve access to healthcare (Dick *et al.*, 2006). These include:

- Improving the knowledge and skills of service providers;
- Making facilities responsive to the need of adolescents by changing opening times and improving the physical environment;
- Reaching out from health facilities into the community to provide information;
- Generating demand for services in the community and creating community support for health services;
- Involving other sectors such as schools and the media; and
- Providing information and mobilising the community.

Evaluation of the effectiveness of the studies was limited by the range and poor choice of evaluation methods, incomplete description of interventions, variation in the scale of evaluation (10 studies involving fewer than 10 clinics, and remainder varying from 15 clinics to 328 clinics) and in the duration and intensity of interventions. While most studies focused on improving existing services within public health facilities, 11 of the 16 studies were multi-component interventions involving other sectors. Half of the studies used peer educators, some based in clinics and others in the community, to generate demand, refer young people to health services, ensure that health services were welcoming and provide information about sexual and reproductive health services. Despite the limitations of the data, there is sufficient evidence to promote the wide scale implementation of programmes that seek to train service providers and other clinic staff and improve the conditions of the facility, supported by efforts to inform and generate demand for services among community members (Dick *et al.*, 2006). These interventions will require careful monitoring of their coverage and quality.

loveLife has been instrumental in introducing and disseminating the concept of youth friendly clinics through the National Adolescent-Friendly Clinic Initiative (NAFCI). NAFCI is a collaborative project between loveLife, the Reproductive Health Research Unit and the Department of Health. Together they have established national standards for public health clinics to be accredited as adolescent-friendly. These include a practical, self-assessment audit and an external assessment. The objectives of the programme are to improve the accessibility and acceptability of public health services by adolescents and to build the capacity of health workers to provide quality care to young people (Dickson-Tetteh, Pettifor & Moleko, 2001). A key part of the NAFCI service is peer outreach that encourages young people to use health care services. This outreach is provided by groundBREAKERS who are trained peer educators located at each clinic with the purpose of promoting positive lifestyles and healthy sexuality.

Three studies evaluating the effectiveness of adolescent friendly services in SA showed mixed results. The first evaluation, included in the WHO study (see Dick *et al.*, 2006) reviewed 32 clinics participating in the national programme between 2002 and 2004. The evaluation reported significant increases in service utilisation by young people as well as increases in voluntary counselling and testing. However, visits to the clinic for STI treatment, pregnancy or contraception did not increase over the time period. It must be noted that the weight that can be assigned to the evaluation is limited because of the failure to include control clinics in the evaluation.

A second study that compared NAFCI clinics to control clinics showed that NAFCI accredited clinics performed better in providing adolescent friendly services with respect to determining adolescent needs in a community, knowledge of adolescent rights, availability of adolescent specific information and non-judgemental attitude of staff (Dickson, Ashton & Smith, 2007). However, overall quality of care was not significantly different from control clinics.

Similarly, a third study using adolescent simulated requests for HIV testing from NAFCI and regular clinics showed that NAFCI clinics performed better on only 1 indicator – namely accessibility of HIV testing (Matthews *et al.*, 2009). Young people visiting NAFCI clinics were less likely to be turned away without a test. However, NAFCI clinics did not increase the acceptability of services as measured by the attitude of health staff towards youth, and respect for confidentiality, nor did it improve the appropriateness of counselling services offered to young people.

In line with problems experienced in the school setting, implementation may be comprised by the physical constraints of the clinic setting as well as the work culture adopted in clinics that are more task-oriented rather than holistic in approach (Rohleder & Swartz, 2005) and therefore not conducive to the provision of adolescent friendly services. Although there is global consensus on the need for adolescent friendly health services, much more rigorous evaluation studies are required at a global and local level to demonstrate their effectiveness in improving access to health services and, particularly, in improving health outcomes (Tylee *et al.*, 2007).

Termination of pregnancy services

Early in the transition to democracy, SA promulgated the Choice of Termination of Pregnancy Act (Act No.92 of 1996) to reduce abortion-related morbidity and mortality and to protect women's reproductive health choices as well as their right to access safe reproductive healthcare services. Available data suggests that the Act has had a positive impact on both morbidity and mortality. Comparing abortion-related mortality between 1994 and 1998-2001, Jewkes and Rees (2005) reported a 91% reduction in deaths from unsafe abortion. More recent reports of the Confidential Enquiries into Maternal Deaths also show a decline in abortion related-deaths. Whereas abortion accounted for 5.7% of maternal deaths in 1998, it dropped to 3.5% in the 2002-2004 report

(DOH, 2006). The expected dramatic decline in abortion-related morbidity, however, has not manifest in SA. Comparison of incomplete abortion between 1994 and 2000 show no statistical evidence of change (Jewkes *et al.*, 2005). However, there has been a significant reduction in unsafe abortion among teenagers. While the 1994 study showed that teenagers were most at risk for unsafe abortion with one fifth in the high severity category, by 2000, they were more likely to be in the low severity category.

Most young women are able to balance the moral, cultural and religious ideology about early pregnancy and termination with the pragmatics of early motherhood (Varga, 2002). So they do seek termination. But the stigma of the community and the health care system prevents them and important decision-makers in their lives (mothers, older women in the family and partners) from choosing safe reproductive health options available to them (Jewkes *et al.*, 2005). They opt for backstreet abortions rather than legal and safe abortions. Much like HIV, concerted community level efforts are required to shift social norms about pregnancy and termination and to empower young women and their families using a rights-based framework to balance provision of sub-optimal healthcare services with demand for services that are of appropriate quality.

Mass media campaigns

Mass media is an appealing strategy to influence young people's sexual and reproductive health because of its ability to reach large numbers of young people (NRC & IOM, 2005). Given the appeal and allure of mass media to young people, it has been used extensively to change knowledge, attitudes and behaviour regarding HIV and AIDS (Bertrand & Anhang, 2006). But mass media communication is often difficult to evaluate because of its national scale, precluding the use of randomised control trials, the difficulty of attributing effects to the media component when such interventions are often multi-component programmes, and separating the effects of a particular intervention, in an environment in which multiple interventions or campaigns are taking place (Bertrand & Anhang, 2006; Shisana *et al.*, 2005). Communication interventions use a wide spectrum of media including radio, television, video, print, and the Internet, and these can take a variety of forms including talk shows, public service announcements, soap operas, billboards, pamphlets, posters and interactive websites (Bertrand & Anhang, 2006).

A recent review of mass media interventions focused on changing HIV-related behaviour among youth in developing countries, synthesized the effectiveness of 15 evaluation studies – 11 from Africa and 3 from SA, in order to make recommendations for the wide-scale implementation of such interventions (Bertrand & Anhang, 2006). The evaluation studies were classified into three categories: radio only, radio with supporting media such as print, videos, theatre and school workshops, and radio and television with supporting media. Review of these studies show that mass media interventions are able to impact on one or more sexual behaviour and psychosocial factors influencing behaviour. Interventions showed positive effects on knowledge, self-efficacy to use condoms and actual condom use, some shifts in social norms, increased interpersonal communication and greater awareness of health services. However, the programmes reviewed did not improve abstinence-related self-efficacy, delay age at sexual debut or decrease multiple partners. While there was little evidence to support radio-only interventions, there was little that separated radio with supporting media versus radio and television with supporting media in terms of effects on multiple outcomes. Studies that measured dose-response effects showed that young people who had high exposure to the campaign via multiple channels were more likely to change behaviour. Although costs and use of a particular media channel may determine the mix of media used, the review concluded that there was sufficient evidence to recommend the wide-scale implementation of mass media campaigns that use multiple media channels and that are closely co-ordinated to other interventions such as school-based or clinic-based interventions.

However, given the high costs of media interventions, many more rigorous evaluation studies are required on large-scale comprehensive communication interventions to demonstrate their effects at a population level and to determine their costs (Bertrand & Anhang, 2006). As randomised control trials cannot be used to evaluate national interventions, a recommendation is made for the use of quasi-experimental designs together with analytic approaches to infer causality.

SA has launched several national mass media campaigns in response to the HIV and AIDS epidemic. These have included radio, television, print and outdoor media supported by more localised activities such as workshops, participation in clubs and access to services. While most of these interventions do not target teenage pregnancy explicitly as an outcome, they do confer benefit because of their focus on sexual behaviour and practices common to both pregnancy and HIV. In addition, over and above mass campaigns, several more localised forms of social communication around HIV and AIDS also provide information, and influence behaviour and practice (see Table 18). Herein lies the difficulty of evaluating effects of mass media campaigns. While evaluation of media campaigns focus on single interventions, they seldom take into account the multiple sources of information from a range of interventions (Shisana *et al.*, 2005).

Table 17: Sources of information related to HIV and AIDS for young people in SA

Source	Type of activity
National multimedia campaigns Khomanani loveLife Soul City Soul Buddyz	National multi-media HIV and AIDS campaigns and programmes including communication via mass media (television, radio, print, outdoor media) and including interactive participation
Television series Tsha Tsha Gazlam Beat It	National HIV and AIDS-focused television series broadcast nationally on prime time
Non-campaign related mass media	News features, documentaries, talk-shows, statistics etc. with HIV and AIDS content broadcast and published nationally and internationally
School-based life skills	National life skills education programmes including HIV and AIDS interactive participation
Provincial campaigns Local campaigns Health systems, clinics, hospitals Local organisations focused on HIV Faith-based organisations	HIV and AIDS communication via mass media and including international participation
Direct experience of HIV and AIDS	This includes personally knowing people who are positive, knowing those who have died; interaction with friends and relatives about HIV and AIDS; being orphaned as a result of AIDS etc.

Source: Parker & Colvin, 2006

Nevertheless, data is available on the reach of national media campaigns, and their perceived usefulness, as well as estimations of their impact. The evaluation will focus on three of the largest national campaigns, loveLife, Soul City and Khomanani. The focus of each of these campaigns is outlined below.

Box 1: Description of three national HIV and AIDS campaigns in SA

Khomanani

Khomanani was launched in 2001 as a government HIV and AIDS communication brand that operated for two years. It was re-launched in 2007 by the Department of Health with the aim of halving the incidence of HIV infections by 2011 and mitigating the impact of AIDS on individuals, families and communities. The campaign focuses on accelerated HIV and AIDS prevention; care, treatment and support; nutrition, health promotion and TB.

The programme targets youth of school going-age. It sought to mobilize individuals to participate in caring communities that together take on the challenges posed by STIs, HIV and AIDS and TB (GCIS, 2003). It encourages young people to delay sex and for those who are sexually active to adopt safe sexual practices (Cullinan, 2002). The programmes also focused on the risks of transactional sex. It distributes its message via TV and radio commercials, public service announcements, print media and community outreach programmes (SAGI, 2005). Khomanani is guided by the HIV and AIDS and STIs Strategic Plan for South Africa. It uses a behavioral change framework that seeks to foster changes in sexual behaviour through a five-step process of knowledge, approval, intention, practice and advocacy (GCIS, 2003).

Soul City

Soul City is the longest running HIV and AIDS awareness and prevention programme in SA. It was established as an NGO in 1992 and targets teenagers and adults as well as children aged 8-12 through its two main brands, Soul City and Soul Buddyz respectively. Soul City uses its edutainment model to inform programming. Edutainment integrates social issues into accessible, popular and high-quality entertainment formats, based on a thorough research process (Soul City 2009a). Although its main medium is TV and radio drama, it also uses community radio talk shows, TV and radio commercials, the print media and as well as outreach events such as community dialogues to spread its message (oneLove, 2008). While the main thrust of Soul City is on HIV and AIDS and sexual behaviour, it also seeks to improve people's health and quality of life in general by addressing issues such as gender-based violence, substance abuse and small business development (Soul City, 2009a).

Integral to Soul City's approach towards programming is extensive consultation with both civil society as well as experts in the field (Soul City, 2009b). Soul City combines a number of intervention models and theories that focus beyond individual behaviour. Soul City submits to WHO's Ottawa Charter that theorizes that an individual's health is affected by a range of cross-cutting factors. This involves integrating the creation of an enabling environment with public health policy, community action, developing personal skills and health promotion. Behavior change theories such as Bandura's Social Learning theory (Bandura, 1986) and John Hopkins University's model of Steps to Behaviour Change also inform Soul City's mass media programming.

loveLife

loveLife was launched in 1999 as a major South African national HIV prevention programme targeting youth aged 12-17 (loveLife, 2009). It works with approximately 130 community-based organisations, several non-governmental organisations and government. loveLife developed a strong youth development brand that young people can identify with. The brand was used to raise discussions about sex and expose the link between sex and HIV and AIDS (Harrison, 2008a). The main goal of loveLife is to reverse the HIV epidemic among young people, while concomitantly addressing teenage pregnancy and other sexually transmitted infections (loveLife, 2009). It also seeks to address issues such as sexual coercion, imbalanced gender roles, and encourages family discussions about sex. loveLife's theoretical framework of behaviour change is informed by behavioural theories such as diffusion of innovations, ecological theory and the theory of reasoned action (Ajzen and Fishbein, 1980; Rogers, 2003; Waldo and Coates, 2000). It focuses on creating change through social networks, opinion leaders and change agents (Pettifor *et al.*, 2007).

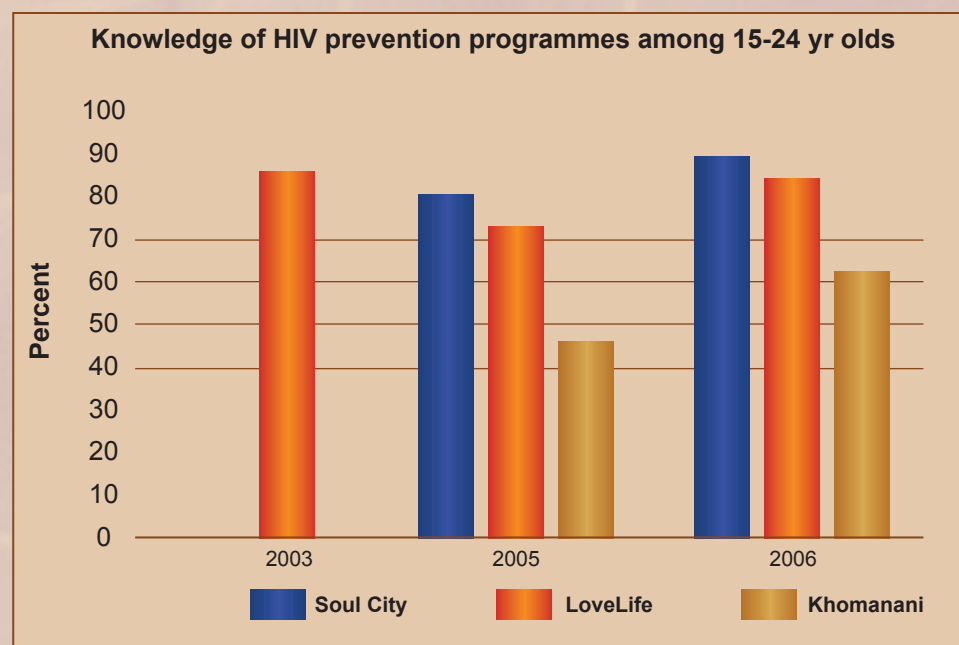
loveLife uses the combination of mass media and community outreach programmes to encourage community participation which will, in turn, engender positive living (Harrison, 2008). Mass media approaches include TV and radio commercials, talk shows, outdoor media, print media and face-to-face services provided in the 11 official languages of the country. It also runs a helpline for both youth (thethajunction) and parents to access sexual health information. loveLife re-packages its message through community-level campaigns that makes use of mentors and peer educators. About 1200 national corps (groundBREAKERS) aged 18-25 years and 5000 volunteer peer motivators ('impintshis') lead the loveLife's HIV prevention education and youth mobilization programme into communities including about 4 200 schools.

To strengthen its community outreach arm, loveLife also provides youth friendly service in collaboration with about 350 government clinics nationally. It has also established 17 non-clinical youth centres known as Y-centres throughout the country. These centres are inter-sectoral in that they provide youth with sexual health education, and accessible adolescent health services in a non-clinical environment as well as other opportunities for youth development such as computer training and recreational activities.

In collaboration with the Department of Sport and Recreation, loveLife conducts the loveLife Games - an inter-school sport and lifestyle development initiative, which attracts over 250 000 learners and about 2000 teachers annually (loveLife, 2009). The Games promote HIV prevention and health living, self motivation and personal achievement (Harrison, 2008). In addition, loveLife has trained a network of 500 grandmothers - known as goGogetters, to assist with HIV prevention among 6000 orphaned and vulnerable children. Programme focal areas include assisting orphans to stay in school and gain access to government support services such as social grants, preventing sexual abuse, and maintaining their general wellbeing (loveLife, 2009).

There are relatively high levels of knowledge of all three programmes among 15-24 year olds, although Khomanani lags behind (See Figure 15). To achieve high-frequency and high-intensity media coverage, however, awareness should be around the 80% mark (Harrison, 2008a). Both Soul City and loveLife have been achieving these levels of penetration over the past five years in this age group.

Figure 13: Proportion of 15-24 year olds who know of Soul City, loveLife and Khomanani



Source: Harrison, 2008a

Young people in SA place a great deal of trust in national HIV campaigns as a source of information. Over four fifths of youth (85%) trust national campaigns as a source of information about HIV, surpassed only by doctors/scientists (87%) (Kaiser Family Foundation & SABC, 2006). Equally high numbers (83%) perceive national HIV campaigns to be an effective source of teaching about HIV. The 2005 SABSMM survey (Shisana *et al.*, 2005) measured the perceived usefulness of HIV campaigns for HIV information. All three campaigns (Soul City – 95%; Khomanani – 80%; loveLife – 91%) received a high level of endorsement in terms of their perceived usefulness by young people.

While specific interventions have attempted to demonstrate their impact on behaviour, more robust assessment of impact is likely to be gauged from a cumulative effect of exposure to multi-media programmes. In 2006, the first national HIV and AIDS communication survey was undertaken in SA. Secondary analysis of the data was conducted to estimate the impact of eight national communication programmes involving 19 communication sub-components on several HIV-related outcomes (Kincaid *et al.*, 2008). The findings suggest substantial direct effects on 13 HIV-related outcomes based on exposure to various national communication strategies, although these findings are not specified to youth. These effects are evident on among others condom use, self-efficacy to use condoms, communication with friends and partners about HIV testing and faithfulness to partners (see Table 19). The size of the effect varies with increasing levels of exposure to communication programmes indicated by the range of the impact in Table 19. For example, while 38% of participants who were not exposed to any media programmes used a condom to prevent HIV, 56% who were exposed to 15 or more programmes used a condom. The findings provide support for increased coverage and intensity of media programmes (Kincaid *et al.*, 2008; Harrison, 2008a), although the upper limit of the range of impact suggests that there is a threshold to which cumulative exposure can have an impact on behaviour. Hence media programmes, while effective in changing a range of behaviours, need to be supported by other intervention strategies.

Table 18: Cumulative odds of behaviour change with increased exposure to communication campaigns

	Odds ratio	% range of impact
Use condom to prevent HIV	1.05	38-56
Self efficacy of condom use	1.07	42-55
Talked to friend about HIV test	1.09	23-79
Talked to partner about HIV test	1.07	50-73
HIV test within last 6 months	1.06	15-30
Ever had an HIV test	1.06	36-57
Helped someone sick with Aids	1.1	6-21
Helped a child affected with Aids	1.12	2-11
Positive attitude to Aids	1.03	37-47
Participated in meeting in which Aids discussed	1.11	35-72
Knows Aids telephone helpline	1.12	15-50
Faithful to partner	1.06	1-3
Abstains	Ns	
One vs multiple partners	Ns	
Condom with non-regular partner	Ns	

Source: Kincaid *et al.*, 2006

Community-based interventions

Because of the somewhat limited benefits of single interventions in discrete settings, and the increased recognition of multiple sources of risk and protective factors, over the past two decades, there has been an increased recognition of the need to focus on multi-component community-based activities as a support to institutional interventions (Kirby, 2007; NRC & IOM, 2005). These use various combinations of school and health-based interventions, community awareness raising including media type interventions and, in some cases, working with youth organisations. A review of six community-wide interventions in the US showed mixed results. Kirby (2007) indicated that firm conclusions could not be drawn because of the generally weaker design of community interventions. While the fear that community-based interventions will increase sexual activity has not manifest, there were positive indications from four studies that such interventions can delay initiation of sex, increase condom use and lower pregnancy or birth rates at a community-wide level.

An evaluation of 22 community-based interventions focusing on young people in developing countries also indicated that the lack of rigour in the evaluation of interventions severely constrained the conclusions that could be reached (Maticka-Tyndale & Brouillard-Coyle, 2006). In this review, 4 types of community-based programmes were reviewed:

- Programmes targeting youth that were delivered through youth organisations or youth centres;
- Programmes targeting youth that built specific infrastructure for the interventions;
- Programmes targeting community members in general and delivered through support networks; and
- Programmes targeting whole communities delivered through community-wide events.

Interventions were designed to increase knowledge related to HIV, build skills such as condom use self-efficacy, change sexual behaviour as well as raise awareness and shift community norms. None of the studies reviewed

produced strong evidence of positive effects on behaviour. Most studies produced mixed results and many were too poorly designed to reach conclusions about their effects. The strongest evidence for positive effects on knowledge, skills, age of sexual debut or condom use came from 10 studies that targeted youth through youth organisations. However, no effects were reported on the incidence or frequency of sexual activity or on multiple partnerships. While the review recommends delivery of such interventions at scale, it cautions that they need to be supported by rigorous monitoring of operational processes and evaluation of impact. Most of the interventions using this design were delivered by peer educators. To ensure the successful application of this delivery format, the review recommends using established criteria to recruit peer educators and providing training and ongoing monitoring and support throughout the programme. The weak design, limited number and short evaluation period of the other modalities, limit recommendations about their wide-scale implementation, although there is some evidence for their positive effects.

Participation in community-level activities is generally low among young people in SA. The 2005 SABSMM survey (Shisana *et al.*, 2005) showed that while a quarter (25.7%) of adults aged 25-49 years participated in community meetings, only about a sixth (16%) of youth aged 15-24 years attended such meetings. Although loveLife is often identified by its prominent multimedia interventions, it has an equally strong community-level presence, described in Box 1 above. However, only about a third (34%) of young people who participated in the 2003 RHRU survey reported participation in loveLife's community-based activities (Pettifor *et al.*, 2004). Although community-based activities focused on HIV are not perceived by young people to be as effective as teachings learnt from health workers or national campaigns (SABC & Kaiser Foundation, 2006), analysis of cross-sectional data shows that participation in loveLife activities significantly reduces the odds of being HIV positive among both males (0.6) and females (0.61). The analysis controlled for a number of factors including awareness of two different national HIV prevention campaigns (Pettifor *et al.*, 2005). While cross-sectional data can never prove attribution (Harrison, 2008a) and analyses have not taken into account the effects of exposure to multiple HIV and AIDS programmes taking place in SA (Jewkes, 2006; Parker & Colvin, 2006), the analysis does provide some indication of the impact of loveLife on HIV risk. In addition, participation in loveLife programmes has also been associated with greater self-motivation, more interpersonal communication about HIV, high condom use and greater likelihood of testing (Harrison, 2008a).

A randomised control trial that tested the Stepping Stones intervention in rural Eastern Cape among youth aged 15-26 showed mixed results (Jewkes *et al.*, 2008). Stepping Stones is a community-based HIV prevention programme – run by the Planned Parenthood Association that aims to build gender equitable relationships by drawing on everyday experiences to discuss sex and love, conception and contraception, unwanted pregnancy, sexually transmitted infections, motivation for sexual behaviour, dealing with grief and loss, and communication skills. While the programme did not have an impact on HIV incidence, it did reduce the incidence of herpes simplex 2. However, unwanted pregnancy seemed to have increased in the intervention arm at the 12 month and 24 month follow up periods. While behaviour change was not evident among women in the intervention, men reported lower levels of transactional sex at 12 months and perpetration of intimate partner violence at the 12 and 24 month follow up periods.

Expanding participation in community-based interventions represents a potential area of growth in responding to adolescent sexual and reproductive health in SA although more rigorous evaluation studies are required to demonstrate their efficacy. This is especially important for young people who exit the schooling system prematurely and who are at increased risk for early pregnancy and HIV.

Youth development programmes

As discussed earlier, when young people perform well at school, are connected to the school, their families and other institutions in the community, and have definitive plans for the future, they are less likely to fall pregnant (Kirby, 2007). Given the number of non-sexual factors that influence sexual behaviour, a range of youth development programmes that focus on the whole person have been trialled in the US to influence adolescent reproductive health. While some modalities show positive results, others show no effects. In addition, the few evaluation studies limit firm conclusions about the effectiveness of youth development programmes as a whole. One modality that shows promise is service learning involving community service that is either voluntary or linked to an academic programme. Four studies, three of which were conducted in multiple locations in the US, have shown consistently positive effects on sexual activity or teenage pregnancy even when programmes did not address sexuality directly (Kirby, 2007). Although the precise reasons for the effect of service learning on sexual behaviour have not been identified, a number of mechanisms have been postulated. These include developing strong bonds with programme facilitators, increased competency in relationships with peers and adults, developing a sense of purpose about the future, making a difference in someone's life; and engaging in a time-intensive programme (average of 44-77 hours in a year) thus reducing the time available for engaging in risk behaviour.

Vocational education and employment programmes that provide academic remediation and life skills education, however, did not have an impact on pregnancy or birth rates (Kirby, 2007). Three other comprehensive and intensive youth development programmes that focused on improving academic achievement and social competence, school attachment and parenting skills respectively, showed consistently positive effects although the number of evaluation studies was too small to draw firm conclusions.

Although a number of youth development programmes are provided, particularly for vulnerable groups in developing countries, evaluation studies are rare (NRC & IOM, 2005; World Bank, 2006). Both the 2007 World Development Report (World Bank, 2006) and the Panel on Transitions to Adulthood in Developing Countries (NRC & IOM, 2005) make reference to the Better Life Options programme in India targeted at young women aged 12-20 who are out of school and who reside in rural areas or peri-urban slums. The programme provides non-formal education with links to formal education, vocational skills, health education, access to reproductive health services and empowerment of women through public awareness and advocacy. Evaluation of the programme effects showed that girls participating in the programme were more likely to delay marriage, have fewer children, use contraception, participate in formal schooling, be employed and make use of antenatal care and hospital services for deliveries (NRC & IOM, 2005; World Bank, 2006).

Given that incomplete schooling is a significant risk factor for both pregnancy and HIV, instituting interventions that promote schooling may be an effective method to prevent pregnancy and HIV. Because of the trade-offs between child labour and education, conditional cash transfers have been used in Mexico to increase participation in education, health and nutrition programmes (IFPRI, 2002). The PROGRESA Program provided a food and educational grant to poor rural families conditional on their children attending school regularly and receiving periodic medical checkups. The programme produced a proportional increase in enrolment at secondary school level of about 8% for boys and 14% for girls (Schultz, 2000). It also ensured that students entered school at earlier ages, decreased grade repetition and improved grade progression. The programme was particularly effective in decreasing dropout between the transition from primary to secondary school (IFPRI, 2002). It also promoted re-entry into school among students who dropped out prior to the initiation of the programme, although subsequent dropout among these students was high. Although PROGRESA did not

explicitly focus on reproductive health outcomes, given the well established benefits that schooling confers to reproductive health, it does offer a promising approach to delay pregnancy and protect against HIV.

Financial concerns are the chief reason cited by most young people in SA for not continuing their education (Richter *et al.*, 2005; Stats SA, 2008b). Yet when children, particularly, young women, live in households that receive social grants, they are more likely to attend school (Samson *et al.*, 2004). Failure to complete school, as opposed to high risk sexual behaviour, has been identified as a significant risk factor for HIV among young women in SA (Pettifor *et al.*, 2008). In light of these findings and the success of conditional cash transfers in other setting, the Reproductive Health Research Unit is in the process of testing such a programme to retain girls in school in SA. Such an intervention may also confer benefit to teenage pregnancy but would need to be a distinct outcome measure of the trial.

Second chance programmes

When young people's transition to education and work is interrupted by early parenthood, especially under poverty-stricken circumstances, institutional-level support is required to mitigate educational, economic, health and childcare barriers (World Bank, 2006).

Flexible school policies

One of the most cost effective interventions that countries can introduce is *flexible school policies*. In fact, increasing access to second chance programmes such as high school equivalence programmes in the US has allowed teenage mothers to continue their education thereby limiting the impact of pregnancy on a range of outcomes (World Bank, 2006). More progressive policies adopted in sub-Saharan Africa and Latin America post-2000 means that many more young women can stay in school and complete their education (World Bank, 2006). While some countries allow young women to remain in school during pregnancy, others require them to take a leave of absence for a specified period, after which they may re-enter school (NRC & IOM, 2005). However the extent to which policies are actually implemented are unknown and the effects of such policies are yet to be evaluated (NRC & IOM, 2005).

SA is one of several countries in sub-Saharan Africa that has taken steps to protect young mothers' right to education. Even before the transition to democracy, in the absence of a formal policy, schools allowed pregnant girls to remain in school and to return to school post delivery. The introduction of the Constitution in 1996 together with the Education Act and Schools Act in the same year formalised this practice. In July 2000, the Council of Education Ministers pronounced specifically on teenage pregnancy, indicating that pregnant learners could not be expelled from school. Yet this practice persists. Anecdotal reports through the media as recent as 2008, indicate that girls continue to be expelled when they become pregnant ('Pregnant pupils expelled', The Mercury, May 8 2008).

In 2007, the Department of Education, motivated by a concern for learner pregnancies in public schools, introduced guidelines for the prevention and management of learner pregnancy (DOE, 2007a). The guidelines recognise the responsibility and influence that the education system shares with the larger community to prevent and manage teenage pregnancy. It emphasizes a prevention focus to reduce teenage pregnancy, HIV and other sexually transmitted infections. This goal can be achieved through sexuality education provided by the Life Orientation learning area, HIV and AIDS programmes and peer education among learners. However, the guidelines recognise that unplanned pregnancies do occur and that the education system requires policies and procedures to manage these events appropriately. The guidelines attempt to balance the right of the

pregnant teenager to education and equality against the rights of the newborn child to care and support. Three potential areas of concern arise in the guidelines:

- 1) The strong focus on abstinence messaging;
- 2) The suggestion that pregnant learners exit the schooling system for a period of up to two years in the interest of pre- and postnatal care as well as parenting responsibilities; and
- 3) The association of teenage pregnancy with poor morality and being contrary to the value system of some community members.

When abstinence is promoted as a behavioural choice within the ambit of a comprehensive programme on sexuality that includes information on contraception, it can delay sexual debut (Kirby, 2008). However, a systematic review in the US found little scientific evidence that abstinence-only programmes delay initiation of sexual intercourse. In fact the lack of scientific rigour of abstinence only programmes compromise the ability to evaluate their effectiveness. A recent review of abstinence only education in the US (Santelli *et al.*, 2006) reported that many teens who express interest in abstaining fail to do so and when they do initiate sex, they often fail to use contraception. In addition, a substantive proportion of school going learners require information on contraception and reproductive health services because they are sexually active. The 2002 Youth Risk Behaviour Survey in SA reported that at least a third of adolescents in schools are sexually active (Reddy *et al.*, 2003). To prevent pregnancy, STIs and HIV, sexually active learners have the right to access complete and accurate information about contraception and reproductive health services, none of which can be provided in abstinence only programmes (Santelli *et al.*, 2006). Comprehensive sexuality programmes on the other hand, have consistently demonstrated the ability to delay sexual debut, to reduce frequency of sex, to reduce the number of sexual partners and to increase condom and contraceptive use (Kirby, 2008). A mixed approach is therefore required driven by the developmental stage of adolescents. For most children who have not initiated sex, abstinence only messages are appropriate but at the cusp of puberty when the chances of sexual initiation increases, both abstinence and responsible sexuality need to be promoted (Kirby, 2007).

The two year waiting period suggested in the DOE guidelines may compromise the educational attainment of young mothers. As discussed earlier, data from the KZN Transitions study showed that for every year that passes after pregnancy-related school dropout, young women are significantly less likely to return to school (Grant & Hallman, 2006). Even if the recommendation is motivated by the interest of the child in the short-term, in the medium to long-term the child's interest are better served by an educated mother, as maternal education has been identified as an important determinant of a range of child outcomes including child school enrolment and attainment (NRC & IOM, 2005). Hence, facilitating the early re-entry of young mothers into the schooling system – whether mainstream or otherwise, may be protective of their and their children's educational, health, economic and social outcomes.

Sexual experimentation is a normal part of the course of development of all adolescents. When it occurs in the context of comprehensive sexuality education, initiation of sex can be delayed (Kirby, 2007). However, if adolescents choose to have consensual sex and are educated to use appropriate protection, there is little evidence that it is harmful (Santelli *et al.*, 2006). The association of teenage sexuality or pregnancy with poor morality is an individualised, victim-blaming and stigmatising approach. What this review has attempted to demonstrate is that teenage pregnancy is seldom the result of individual sexual permissiveness. Rather it emanates from a complex interplay of risk factors that stack overlapping and cumulative levels of disadvantage

among some teenagers. By giving recognition to the multiple sources of influence of teenage pregnancy, many well beyond the control of adolescents, the education system can play a significant role in debunking the myth of sexual permissiveness among teenagers and in destigmatizing teenage pregnancy.

As in most other countries that have developed flexible school policies, policy effectiveness is limited by the extent to which it is consistently implemented. In particular, the core constituency – young men and women, need to be made aware of their right to education to enable them to demand access where it is denied. In addition, much advocacy work will need to be done to ensure that the gatekeepers of education - principals, teachers and fellow learners, buy into the policy to reduce the stigma that often turns young mothers away from the doors of learning. Although SA has instituted an enabling policy environment for young mothers in the school environment, it needs to be supported by a programmatic focus that addresses the barriers to learning. These include catch-up programmes with respect to the academic curriculum and, in particular, remedial education that often leads to dropout. Strong referral networks are also required with relevant government departments and other community structures that can support learners with childcare arrangements, access to reproductive health services, child support grants and to develop appropriate parenting skills to mitigate the intergenerational transmission of early parenthood.

What works best for second chance programmes

No doubt, second chance programmes are being provided in SA and other developing countries, often by community-based organisations. However, available evidence suggests that they are few (NRC & IOM, 2005), and in all likelihood are small scale and seldom evaluated. Important lessons can be learned from a number of second chance programmes that have been trialled in the US since the 1960s with the explicit goal of delaying second births. It must be noted that the scope, coverage and level of documented success of these interventions in no way match the range and scale of prevention programmes undertaken.

A recent review of 19 programmes to prevent additional births to teenage mothers in the US identified five categories of programmes, although many were considered multi-component (Klerman, 2004). Programmes offered various combinations of the following services – health services either provided directly or via referral to teenagers and in some cases to children, education including formal schooling, training for employment, developing parenting skills, and social services provided by social workers, case managers, nurses and in some cases paraprofessionals. The five categories of interventions include:

- *Community-based programmes offered in multiple sites most often by community-based organisations (4 studies):* these programmes offer various combination of interventions such as service coordination for employment training, development of individualised plans, peer support and role modelling by community volunteers, home visiting, parent support groups, and financial assistance conditional on pregnant teens participating in workshops designed to improve personal and parenting skills, use of family planning and preparation for education, training and employment.
- *Interventions conducted in medical settings (four studies):* these programmes generally include various combinations of prenatal and postpartum care, nutritional services, family planning, as well as reproductive health and family life education;
- *School-based interventions (three studies):* while some interventions use alternative school models for pregnant girls that provide an academic curriculum combined with pregnancy-related education as well as

social and medical services, others link mainstream schooling to school-based clinic and support group services;

- *Home-visiting programmes (three studies)*: these generally involve trained professionals such as nurses who visit teens at their homes initiated during pregnancy and continued for up to two years post-pregnancy. Programmes provide among others parenting education, building informal support systems and links with community services to access resources and support. An alternative model used welfare agency staff with limited experience in home visiting and imposed sanctions on cash assistance grants if teenage mothers did not comply with home visits or participation in skills programmes;
- *Contraceptive implants (two studies)*: use of contraceptive implants that avoid the use of daily dosage (as is the case with contraceptive pills) or at the sexual encounter (as is the case with condoms); and
- *Other interventions (one study)* - these programmes offer financial incentives for avoiding a second birth and are supported by peer support meetings that discuss family planning as well as education and training needs.

Two additional programmes, not included in the review, focused on encouraging teenage mothers to attend and complete secondary school while a third provided housing and on-site social support to pregnant teens through second chance homes.

The review of the 19 studies produced mixed findings. Although half of the studies reviewed report positive effects on additional births, only three of these studies (two nurse home-based visits and one health-based intervention) were based on rigorous evaluation designs of randomised control trials. In addition, the size of the positive effects was mostly small and the number of subsequent births was large. Nevertheless, the evaluation studies, do offer some direction for what works in comprehensive second chance programmes. These include:

- *Developing a close and ongoing relationship with the teenage mother*. The best evidence for programme efficacy comes from home-based interventions where programme personnel develop a close relationship with the teen mother beginning during pregnancy and sustained two years post-pregnancy. Even though group formats for education or counselling may be more cost-effective models of delivery, teenage mothers seem to benefit the most from more individualised, intensive interaction;
- *Programmes should be offered by personnel who have been trained and have the authority and willingness to counsel in sensitive areas such as family planning*;
- *Focus on family planning*: Although the evidence for the success of programmes focused on family planning is inconclusive, second chance programmes that do not focus on reproductive health are unlikely to be successful. As such, programmes should make explicit the detrimental effects of additional births and assist teen mothers in setting targets for future births contingent on achievement of educational, economic and familial milestones. In addition, a comprehensive approach towards contraceptive use is required. This should include provision of support to choose and consistently use a method of contraception including accompanying teenage mothers to family planning services. Teenagers also need to be made aware of the side effects of contraceptives and provided with necessary support to choose alternatives. In addition, dual contraceptive methods should be promoted to prevent pregnancy and STIs including HIV. Consideration should be given to long-lasting hormonal contraception such as hormonal injections; and

- *Encouraging education:* When young women return to school after first birth and complete secondary school, even if educational aspirations are low, they are more likely to delay second birth. As such countries make worthy investments when substantial resources are devoted to remove barriers to return to, and complete school. Promising methods include alternative schools that offer remedial education as well as childcare support to allow young women to engage in educational and economic activities. It must be noted that remedial education is particularly important as poor performance often leads to dropout and in many cases predates pregnancy.

Child support grant

Another effective policy instrument to reduce the impact of poverty on children, including those born to teenage mothers, is the provision of social security. In spite of the documented benefits that child support confers to the nutritional status of children as measured by height for age (Aguero, Carter and Woolard, 2006), arguments persist that the provision of welfare to single mothers encourages dependence on the state and promotes teen and premarital fertility. This thinking is not unique to SA. In 1996, the US changed its welfare policy, placing restrictions on the conditions under which teenage and unmarried mothers could access welfare. These included that welfare could only be provided for a maximum of five years over the mother's lifetime, that the teen mother had to be enrolled in school and that she had to reside with a parent or adult caregiver. Studies that have attempted to measure the extent to which declines in teen fertility in the US could be attributed to welfare reform have produced mixed outcomes (Brindis, 2006; Garfinkel, Huang, McLanahan & Gaylin, 2003; Lopoo & DeLeire, 2006). Brindis (2006) asserts that the difficulty to establish direct causality is linked to the multiple policy interventions that were taking place at the same time. These include increasing availability of long-acting contraceptive methods, increased education about HIV and AIDS as well as a vibrant economy and stronger enforcement of child support policies that increased men's responsibility for children.

Similar concerns about social security namely, the child support grant (CSG) providing a perverse incentive for young women to fall pregnant has been reported in SA. Yet available evidence suggests that SA had relatively high rates of teenage fertility before the introduction of the CSG and that teenage fertility has been declining throughout the period that the CSG has been available in SA. Controversy may have arisen due to the fact that teenage fertility has declined at a slower rate than overall fertility. This may be related to a spike in teenage fertility that predates the introduction of CSG. An examination of the determinants of teenage fertility shows that it is a complex, deeply rooted social phenomenon. Pre-marital fertility is a well-established phenomenon among African teenagers and predates the introduction of the CSG.

Analysis of Department of Social Development data has demonstrated that the number of CSG beneficiaries has grown significantly in recent years. However, if a comparison is made between the numbers of teenagers receiving the CSG with the incidence of teenage births in the national population, uptake of the CSG by teenage mothers remains low. In October 2005, teenagers (younger than 20 years) represented 5% of all CSG recipients. Teenagers claiming the CSG were considerably lower than the proportion of teenage mothers (13% lower) in the South African population (mothers younger than 30 years).

The CSG was introduced for younger children to provide financial support during the window period when good nutrition has the most significant effect on the development of a child (within the first three years of a child's life). However, the majority (53%) of CSG recipients apply for the CSG when their children are much older. Reasons for the relatively late uptake probably related to lack of knowledge about the CSG and the difficulty that caregivers experience in obtaining the required documentation.

A number of studies have been undertaken in SA to assess whether the increase in CSG has had a bearing on the level of teenage fertility. Studies include the following papers: Makiwane & Udjo (2006), a later version was released by Makiwane (2007); Woolard *et al.*, 2005; and Goldblatt & Solange, 2005. Below is the summary of the above mentioned papers that argue that there is no evidence that the introduction of CSG has resulted in an increase in teenage fertility:

Summary of Evidence

- Research on the CSG indicates that there has been significant growth in the number of beneficiaries in recent years;
- There is no evidence of an increase in teenage births during the period in which the CSG has been introduced (1995-2005);
- There is a low uptake of CSG by teenagers. Most beneficiaries of CSG are older women, who, in most cases become the primary caregivers of children born to teenagers;
- The CSG has been found to be an effective strategy of targeting children in poor households, as demonstrated by a significant improvement in child health and nutrition (as measured by height-for-age);
- Further analysis reveals that whereas only 5.3% of CSG mothers are in the 15-19 year age category, the category accounts for 18% of all mothers in the 2001 Census. This implies that teenage mothers are under-represented among CSG beneficiaries and thus in most cases unlikely to be deliberately becoming pregnant to claim the CSG;
- The uptake of CSG overwhelmingly by women rather than men is consistent with the measure being perceived to be for children rather than to increase general household income;
- It is arguable that the increased uptake of the CSG is attributable to a growing awareness of its availability and active measures by government to promote uptake. The CSG reaches 93% of poor children whose carers/parents apply, suggesting that the grant is effective;
- Throughout the period when the CSG was in operation, there has been an increase in the number of teenagers who undergo termination of pregnancy; and
- Uptake is relatively low in the poorest areas of South Africa because parents/caregivers lack the required documentation.

Conclusions and Recommendations

Fertility

The report set out to document the prevalence and determinants of, as well key interventions for, teenage pregnancy in SA. Although the study focused on pregnancy, the detailed trends presented in the report are on fertility. Understanding the distinction between pregnancy and fertility is essential. Fertility rates refer only to pregnancies that have resulted in live births while pregnancy rates include both live births and pregnancies that have been terminated. Before the introduction of the termination of pregnancy legislation, fertility closely approximated pregnancy rates. Since the legalisation of abortion, however, this can no longer be assumed to be the case. Trends in pregnancy rates in SA cannot be accurately estimated for two reasons. First, it is not known whether pregnancies that were terminated early on are well captured in survey data and school record systems. Second, a comprehensive national register of abortion is not maintained in SA.

For the purposes of this study, trends in teenage fertility were investigated in three stages: (1) mapping the overall trends in fertility in SA; (2) documenting trends in teenage fertility relative to overall fertility; and (3) analysing learner pregnancies reported through the Education Management Information System. South African fertility has been declining over several decades. To date, SA has the lowest fertility rate in mainland sub-Saharan Africa. While over time teenage fertility has been declining, this has been at a slower pace than overall fertility. The slower decline in teenage fertility may be attributed to interruptions in fertility associated with national epochs. For example, the interruption of schooling during the struggle years was associated with a rise in teenage fertility. Similarly, the spike in fertility in the mid nineties is associated with political changes during that period when there were concerns for the large cohort of young people who had become marginalised from mainstream systems of education, work, healthcare and family life. However, it must be noted, that teenage fertility has declined by 10% between 1996 and 2001. A further decline in fertility has been reported in the 2007 Community Survey.

Older adolescents aged 17-19 account for the bulk of teenage fertility in SA. While rates are significantly higher among Black and Coloured adolescents, fertility among White and Indian adolescents approximates that of developed countries. This difference can in all likelihood be accounted for by the wide variation in the social conditions under which young people grow up, related to disruptions of family structure, inequitable access to education and health services, as well as the concentration of poverty and unemployment in Black and Coloured communities. However, international research shows that even when the above factors are controlled for, differences between populations groups persist, indicative of cultural differences with regards to pregnancy.

Analysis of the EMIS data on teenage pregnancy shows an increase in learner pregnancies between 2004 and 2008. However, this trend is contrary to national trends in fertility and is more likely the result of improved reporting, rather than a real increase. Analysis of provincial trends shows a concentration of learner pregnancies in the Eastern Cape, KwaZulu-Natal and Limpopo. Despite the limitations of the EMIS data, it does provide some indications of the types of schools in which learner pregnancies are concentrating. Learner pregnancies are higher in schools that are poorly resourced (lower in specialised schools), those located in poor neighbourhoods (no fee schools and schools located on land independently owned), as well as in schools that involve considerable age mixing (combined schools). Targeted interventions may be required for combined schools and those located in the poorest neighbourhoods.

Abortion

Despite the legalisation of abortion in SA in 1996 and the progressive increase of service availability in public and private facilities over time, few teenagers report using legal services for termination of pregnancies in both quantitative (3%) and qualitative data. Administrative data from the Department of Health, however, suggests much higher levels (30%) of usage of legal services by young women aged 15-19. These data sources need to be reconciled to establish a true estimate of use of services. Failure to use legal services is related to the ensuing lack of information about the costs of termination and the stage of gestation at which legal termination can take place, as well as the stigma of pregnancy and abortion generated in the community and replicated within the health system. Yet young people apply a 'relative morality' to abortion to circumvent both social and financial hardships and to protect their educational opportunities. So termination does take place, albeit in many cases, illegally.

Determinants

What the analysis of the trends in fertility show is that the moral panic about rising teenage pregnancy in SA is unfounded. It is one area in which policy instruments related to information dissemination (primarily related to HIV), family planning services, and expanding access to education, have been effective. In fact, with the changing socio-economic landscape in SA, positive attitudes towards early pregnancy reported in the early 1990s have shifted. Over two thirds of young women report their pregnancies as unwanted because it hobbles educational aspirations and imposes greater financial hardships in a context of high levels of poverty and unemployment. What is more, significant progress has been noted in dramatically increasing contraceptive use among young people, in particular, condom use.

Yet rates of teenage pregnancy remain unacceptably high. Despite high levels of knowledge about modern methods of contraception, a large cohort of young people do not use contraception and many use them inconsistently and incorrectly. What the moral panic argument does is associate teenage sexuality and failure to use contraception with deviant individual-level behaviour. Yet the literature review and secondary analysis shows that teenage fertility is, in fact, the result of a complex set of varied and inter-related factors, largely related to the social conditions under which children grow up. These factors include:

- When young people dropout of school early on, often because of economic barriers and poor school performance, they are at significantly heightened risk for early pregnancy;
- When they grow up in residential areas where poverty is entrenched (informal areas and rural areas), they are at risk of experiencing an early pregnancy;
- When both parents, and in particular, the mother, is present in the home, risk for early pregnancy is decreased;
- When stigma about adolescent sexuality abounds, few opportunities exist for open communication about sex with parents and partners, and access to judgement-free health services are constrained. As a result, gaps in knowledge about, and access to, contraception is limited;
- When young women are involved in relationships where power is imbalanced, men decide the conditions under which sex happens. All too often, this involves coerced or forced sex;

- When young women struggle to meet immediate material needs, they make trade-offs between health and economic security. Reciprocity of sex in exchange for material goods leads to young women remaining in dysfunctional relationships, engaging in multiple sexual partnerships and involvement with older men. Under such conditions, there are few opportunities to negotiate safe sex and the risk for pregnancy is increased.

Pervasive poverty in SA stacks these overlapping sources of risk among some young people, offering them limited information to make optimal choices and few incentives to protect themselves against pregnancy.

Role of education

Education is highly valued by young people in SA and aspirations for education are high. It is therefore not surprising that the rise in access to education since the 1970s, particularly for young women, has been met with a concomitant decline in teenage fertility. Despite the contestation as to whether teenage pregnancy is a cause of, or results from dropout, local and international studies show that both share the common antecedent of poverty and poor school performance. While pregnancy may be the endpoint most directly associated with dropout, it is often not the cause. Girls who perform poorly at school are more likely to dropout of school, experience early fertility and less likely to return to school following a pregnancy. In fact data from SA shows that *dropout often precedes pregnancy*. Incomplete education has been identified as a significant risk factor for negative reproductive health outcomes, namely, early pregnancy and HIV.

Even when girls have experienced an early pregnancy, South Africa's liberal policy that allows pregnant girls to remain in school and to return to school post-pregnancy, has protected teen mother's educational attainment and helped delay second birth. However, only about a third of teenage mothers return to school. This may be related to uneven implementation of the school policy, poor academic performance prior to pregnancy, few child-caring alternatives in the home, poor support from families, peers and the school environment, and the social stigma of being a teenage mother. South African data shows that the likelihood of re-entering the education system decreases when childcare support is not available in the home and for every year that teen mothers remain outside of the education system.

Instituting strategies to retain girls in school by addressing both financial and school performance reasons, as well as ensuring early return post-pregnancy, may be the most effective social protection that the education system can offer to prevent and mitigate the impact of early pregnancy. When learners do dropout of school, concerted effort is required to re-enrol them in school or in alternative systems of education.

Young fathers

Despite the growing focus of research on fatherhood in SA, scant data is available, both locally and internationally, on young fatherhood. Available international research suggests that the profile of young fathers is no different from young women – they tend to come from low income homes, have poor school performance, low educational attainment and seldom have the financial resources to support the child and the mother. Our secondary analysis shows that premature exit from the schooling system almost doubles the odds of becoming a father early on in SA.

Qualitative research among young fathers in SA reports that much like young women, young men experience a strong emotional response on hearing about their impending fatherhood. Contrary to the perception of young women that many young fathers deny paternity, most young men in the study expressed a deep sense of

responsibility for the child and a willingness to be actively involved in the child's life, motivated by the absence of their own fathers in their lives. But the acknowledged caring role of a father is overtaken by a deeply entrenched need to provide financially for the child. In a context of pervasive unemployment, few young men can fulfil this role often leading to estrangement from the child. In addition, poor relations with the female partner and her family, together with cultural factors related to negotiation of paternity and ongoing responsibility for the child also serve as barriers to young men fulfilling their role as father.

Much more empirical research is required in SA on young fatherhood and to understand the role of culture and its impact on continued father involvement in children's lives. However, other policy options may have to be considered to ensure paternal support for children. These include gender-based interventions that extend the repertoire of fatherhood beyond 'providing' to being 'present and talking', especially in impoverished conditions where unemployment and poverty is high. In addition, consideration should be given to legal child support arrangements, much like in the US, where legislative interventions have resulted in increased levels of paternal involvement among children of teenage mothers.

Interventions

In keeping with the multiple spheres of influence on adolescent sexual behaviour, a number of prevention interventions have been instituted in SA. These include school-based sex education, peer education programmes, adolescent friendly clinic initiatives, mass media interventions as well as community level programmes. While the focus of these interventions has primarily been on preventing HIV, they have conferred benefit to teenage pregnancy because of their impact on sexual behaviour. While separate interventions for teenage pregnancy and HIV are neither desirable nor feasible, to prevent pregnancy from being overshadowed by a focus on HIV a distinct focus on teenage pregnancy is required. But the range, scale and reach, as well as the quality of implementation of programmes vary widely and have limited their impact on adolescent sexuality. In addition, the small number and lack of rigour of evaluation studies limit the conclusions that can be reached about the effectiveness of interventions. However, based on the growing body of evidence in both developed and developing countries, particularly with regards to HIV, recommendations for effective/promising approaches can be made. These need to be taken to scale to increase the reach and impact of programmes.

What is evident is that a magic bullet for teenage pregnancy does not exist. Given the multiple levels of influence on adolescent sexual behaviour, and, in turn, pregnancy, single intervention strategies by single sectors of society will not solve teenage pregnancy. What is required is comprehensive approaches within the home, the school, the community, the health care setting and at a structural level. In addition, while each sector should act within its strength and foster linkages with other sectors, an integrated strategy is required to ensure that all sectors act towards achieving a common goal.

As all young people will confront their sexuality at some point in time, universal access to information and skills are required early on to enable them to make informed choices. However, where conditions stack high and overlapping levels of risk among some young people, targeted and more intensive intervention strategies will be required. It is clear, and rightly so, that the proximal determinants or sexual risk factors are often targeted in programmes because they are more directly related to pregnancy and HIV and are more amenable to change. However, what the study has demonstrated is that non-sexual risk factors such as relational (family structure, gender relations) and structural factors (education, poverty) are critical determinants in SA. Yet the thrust of our interventions has been on proximal risk factors. Without interventions that target relational and structural factors, substantive declines in the rates of teen fertility will not be achieved. Sexuality is a shared activity

between two partners. It makes little sense to empower women about their sexuality without concomitant efforts to empower young men about equitable gender relations.

Although strong arguments exist for the thrust of interventions for adolescents to focus on prevention, the unabated and increasing levels of marginalisation of young people across a range of domains provide impetus for a more systematic focus on treatment, care and support. Even if we instituted the most rigorous prevention programmes, some young women will experience early pregnancy. Although remediation is costly and difficult to achieve, it far outweighs the costs to a society of lost human capital potential. No doubt, second chance programmes are being provided in SA and other developing countries, often by community-based organisations. However, available evidence suggests that they are few, and in all likelihood are small scale and seldom evaluated. A systematic and more formalised system of support is required for those who do become pregnant. Such programmes of support need to reach beyond addressing the health consequences of pregnancy to mitigating the educational, economic, educative and social challenges that young mothers and fathers face.

Recommendations

Based on the assessment of the determinants of teenage pregnancy and a review of key interventions, the following recommendations are made for interventions within the education system. Recommendations are also made for interventions within other sectors with the aim of achieving a comprehensive and integrated approach towards adolescent reproductive health.

Prevention

Sexual risk factors

Universal implementation of sex education

The international evidence for the effectiveness of sex education programmes is substantive. Although the South African evaluation studies are less convincing, sex education should form a critical component of a comprehensive strategy towards teenage pregnancy. However, a number of steps need to be taken to improve the focus, quality and level of implementation of programmes in South African schools. These include:

- Ensuring that programmes meet most of the 17 criteria identified for effective sex education programmes. These criteria focus on the process of developing the curriculum, the context of the curriculum and implementation of the curriculum;
- Including a definitive focus on pregnancy (rather than only HIV) by addressing knowledge and beliefs about contraception, conception and pregnancy and focusing on responsibilities of parenthood, knowledge and skills required for successful parenthood, together with an understanding of the importance of planning for and timing of parenthood;
- Adopting a comprehensive approach that addresses both abstinence and safe sex practices, rather than an abstinence-only focus. The focus of the programme (abstinence or safe sex) should be dependent on the stage of development/age of the learner, rather than the grade. This will ensure that learners who are older for their grade (due to high levels of repetition – a known risk factor for dropout, and, in turn pregnancy) receive developmentally appropriate messaging;

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- Focusing on both the biological and social risk factors (such as gender power relations, poverty, early school dropout) that lead to early pregnancy;
- Addressing barriers to the full implementation of programmes in schools including raising the level of priority it assumes within the education system, addressing community perceptions and stigma, and improving teacher willingness and readiness to deliver the programme;
- Engaging peer educators or youth/community organisations as a support to teachers in and outside of the classroom. While the benefits of peer education may be greatest to peer educators themselves, this could make an important contribution to generating a new cadre of leaders at community level who can serve as role models for among others positive sexuality and equitable gender relations; and
- Setting up a number of rigorously evaluated effectiveness studies that focus on pregnancy as a distinct outcome using biological measures.

As a support to comprehensive sex education in schools, an assessment of the availability of condoms in the community should be conducted. Where community availability of condoms to young people is low, consideration should be given to making condoms available through the school system.

Targeted interventions for high risk groups

A number of adolescents are at elevated risk for teenage pregnancy because of the social conditions in which they live. Markers of learners at elevated risk include those repeating grades, frequently absent from school, learners with a history of childhood sexual or physical abuse, learners who use/misuse substances and learners living under conditions of extreme poverty. An early warning system must be established such that teachers can identify learners at elevated risk and refer them to systems within the school or in the community for more individualised and intensive intervention.

Our secondary analysis of EMIS data indicates that higher rates of learner pregnancies are reported in schools located in poor neighbourhoods (measured by no fee schools and farm schools) and those in which age-mixing is significant (measured by combined schools), indicative of gender power imbalances. As part of a phased approach towards teenage pregnancy within the school system, interventions should be targeted at combined schools and those located in the poorest communities.

Non-sexual risk factors

Interventions to retain girls in school

The traditional approach of health promotion within the school setting has been to focus on improving the health of learners to facilitate learning outcomes. However, given the significant protection that education can offer to health outcomes, improving both the quality and quantity of education may confer significant benefit.

Incomplete schooling is a significant risk factor for both pregnancy and HIV in SA. Instituting interventions that promote uninterrupted schooling may be an effective method to prevent pregnancy and HIV. As financial concerns and high levels of repetition are two of the chief reasons for inordinate levels of dropout in SA, addressing the financial barriers to schooling and setting up a system for the remediation of school performance for those learners repeating grades may be effective interventions. Conditional cash transfer programmes have proven to be effective in improving school attendance in Mexico, Bangladesh, Nicaragua and Brazil. Plans are

underway to test such a programme in SA with HIV as an outcome measure. Such an intervention may also confer benefit to teenage pregnancy but would need to be a distinct outcome measure of the trial.

When learners do dropout of school, a systematic process is required to re-enrol them in school or into alternative systems of education. To dramatically increase the number of young people enrolled in alternative pathways such as Further Education and Training or Adult Basic Education and Training, however, a number of gaps need to be addressed. These include ensuring that programmes are adequately resourced, provide quality education services, and are reframed as legitimate and credible systems linked to mainstream pathways (HSRC, 2007). In addition, alternative systems must offer viable exit opportunities for participants by cohering with further education and economic opportunities. Young people using alternative pathways rarely experience difficulties in only one aspect of their lives (Yohalem and Pittman, 2001). They often require support on multiple fronts. Service provision must be comprehensive and tend to development in a holistic manner. The structure of second chance programmes must also be flexible to accommodate the economic imperatives and family commitments that make young people turn to alternative systems.

Service learning

Service learning that involves community service that is either voluntary or linked to the school curriculum has shown positive effects on sexual activity and pregnancy in the US even when programmes have not addressed sexuality directly. Instituting such interventions may be a cost effective youth development strategy that is in line with the goals of the second generation youth policy in SA. These include promoting community participation among school going learners and providing much needed work experience for young people – a prerequisite for employment, while concomitantly offering protection to reproductive health outcomes.

Second chances

As in most other countries that have developed flexible school policies regarding pregnancy, policy effectiveness in SA is limited by the extent to which it is consistently implemented. In particular, the core constituency – young men and women, need to be empowered about their right to education to enable them to demand access when provision is denied.

Much advocacy work is also required to ensure that the gatekeepers of education - principals, teachers and fellow learners, buy into the policy to reduce the stigma that often turns young mothers away from the doors of learning.

An enabling policy needs to be supported by a programmatic focus that addresses the barriers to learning. Chief among these is ensuring the prompt return of girls post-pregnancy into the schooling system. The suggestion of 'up to a two year waiting period' before return to school in the Department of Education learner pregnancy guidelines, may be counterproductive to both maternal and child outcomes. In addition, catch-up programmes with respect to the academic curriculum will need to be provided and, in particular, remedial education to improve school performance that often leads to dropout.

Strong referral networks are also required with relevant government departments and other community structures that can support learners with childcare arrangements, access to reproductive health services, in particular access to contraception to prevent second birth, child support grants and to develop appropriate parenting skills to mitigate the intergenerational transmission of early parenthood. While a mass-based system is effective for the prevention of pregnancy, teenage mothers benefit more from intensive, individualised support.

Setting up a one-on-one relationship with an educator or community organisation will assist teen mothers in negotiating the range of new economic, educational and social imperatives that they face.

Other sectors

Communities

There is ample empirical evidence to show that when young people are excluded from mainstream systems such as education, they are at increased risk for high risk behaviour. This is clearly evident in SA with regards to the link between school dropout and risk for pregnancy and HIV. While interventions are instituted to prevent recurring marginalisation from the school system, concomitant efforts are required within the community to support young people at high risk for pregnancy. But community participation among young people is very low in SA and the reach of large-scale interventions in the community such as loveLife is not optimal. Expanding participation in community-based interventions represents a potential growth area in responding to adolescent sexual and reproductive health in SA although more rigorous evaluation studies are required to demonstrate their efficacy.

In addition, given that stigma about adolescent sexuality and imbalanced gender relations are often generated at community level and replicated within homes and the health setting, instituting interventions to shift community norms may be an effective method to open up channels of communication about sex, to improve young people's access to health services and to foster equitable gender relations.

Given the inextricable link between adolescent motherhood and poverty and socio-economic disadvantage, efforts to empower young women through skills development and opportunities for developing sustainable livelihoods may assist in minimising trade offs between health and economic security. In fact a cluster randomised trial that tested a microfinance structural intervention on economic security, empowerment of women and intimate partner violence was able to half the risk of physical and sexual violence after 2 years (Kim *et al.*, 2007). Such interventions that create synergy between health and development goals, may offer promising approaches for pregnancy and HIV risk reduction.

Health

Despite significant advancements at policy and programmatic levels to improve the availability and accessibility of health services to young people, usage is compromised by lack of acceptability of services. Even with the roll out of the Adolescent Friendly Clinic Initiative in SA, young people are still confronted with the negative and stigmatizing attitudes of health staff. Thus young women would rather not use contraception, delay accessing antenatal care when they are pregnant, or resort to illegal means for termination of pregnancy. Much more rigorous effort is required to roll out adolescent friendly services and to entrench its key principles among the custodians of healthcare. In addition, the full range of preventative services for pregnancy should be made available and accessible to young people. In particular, emergency contraception, that is considered safe and effective, and that *does not increase sexual activity* among young people, should be deregulated to increase availability and usage.

Until the quality of healthcare services can be improved for young people, consideration should be given to making available health services outside of the health system. For example, mobile services are proving to be an effective means to provide voluntary counselling and testing services to young people, in particular, young men, who do not generally attend traditional health services.

Parents

As the primary socialising agents of children, parents are a trusted source of information about sexuality for young people. Yet this represents a missed opportunity because parents lack both knowledge and skill to talk openly about sex and felt disempowered to parent their children in an environment that emphasizes a rights-based culture for children. In addition, the generational knowledge gap, fuelled by the educational gap between parents and children, also contributed to their sense of disempowerment. However, family level interventions trialed in SA have shown that programmes can promote open communication between parents and children about sensitive subjects and foster strong parent-child bonds, as well as teach parents how to set and enforce rules. As a support to sexuality education in the school setting, consideration should be given to wide scale implementation of such programmes.

Mass media

Mass media campaigns in SA have played a seminal role in improving knowledge about sexual behaviour and, in particular, about HIV. Three multi-media campaigns, namely loveLife, Soul City and Khomanani have reached high levels of coverage among young people – the former two above the 80% mark required for high intensity and high frequency coverage. Evidence for the cumulative effect of a range of mass media programmes suggest that they have been effective in shifting a number of health behaviours including condom use, self-efficacy to use condoms, communication with partners and peers about HIV testing and faithfulness to partners. While there is support for the increased coverage and intensity of media programmes, a distinct focus on teenage pregnancy is required. In addition, because of the threshold effect of exposure to media programmes, such interventions need to be supported by other intervention strategies.

Scope and coverage of research

Fertility

SA does not collect vital statistics on fertility, pregnancy and abortion. While trends in fertility (measures live births) can be reliably estimated from national datasets, pregnancy rates (that include abortions) cannot be reliably estimated. Trends in teenage fertility were estimated from the 1996 and 2001 census as well as the 1998 Demographic and Health Survey. However, the 2003 SADHS could not be used because of the problems with fieldwork in KZN. As such reliable national data on teenage fertility is not available post 2001. A strong recommendation is made for the annual collection of national vital statistics on fertility, pregnancy and abortion that are differentiated by age groups.

EMIS data

The Education Management Information System collects data from schools through the annual school survey. Pregnancy is estimated using a single question: '*Number of female learners (that you are aware of) that fell pregnant over the previous academic year*'. It is not known, if the pregnancy statistics reported in the EMIS data includes pregnancies that were terminated. Our assessment of the EMIS data is that it most likely approximates fertility (that is live births), as pregnancies are more likely to be reported/discovered late into the gestation period, well past the period for safe termination. Clarity is required on how information on pregnancy is collected in the annual survey. To provide more nuanced information on fertility, pregnancy and termination, a range of questions should be included in the annual school survey.

To differentiate schools in which learner pregnancies concentrate, four variables that characterise schools (school fees, level of school specialisation, institutional phase and land ownership) were captured from available data on the Department of Education website. While the analyses do provide some indications of types of schools in which learner pregnancies are higher, the incompleteness of the data limit the extent to which firm conclusions can be reached. In order to provide reliable estimates of learner pregnancies, comprehensive administrative data is required that combines demographic data with academic performance, school level data as well as pregnancy-related variables.

Administrative data should include a variable that indicates the enumeration area of the school in accordance with Statistics South Africa data such that schools can be characterised by neighbourhood factors.

Setting up a longitudinal study in a number of carefully selected schools/neighbourhoods would allow for a better understanding of how teenage fertility is influenced by national epochs.

While current administrative data focuses on what happens before pregnancy, to determine the effectiveness of school policy on pregnancy, data needs to be collected on social, educative and economic outcomes of teen mothers including dropout related to pregnancy, school completion, academic performance and second birth.

Exploratory studies are also required on the factors that facilitate and prevent teen parents from re-entering the school system. Such studies would enable the development of appropriate second chance interventions.

Determinants

A substantial body of research has been conducted on the determinants of teenage fertility in the US. Several studies are also available from the UK, Nordic countries and other countries from the European Union (EU). Similarly, teenage pregnancy received much scholarly attention in SA in the late 80s and the 1990s. However, studies tended to be descriptive in nature, highlighting biological risks and were localised to particular geographical settings and population groups. Lack of methodological rigour, in some cases, limits the generalisability of these studies. In addition, a limited number of studies are available in SA on the determinants of teenage pregnancy, particularly from the late 1990s. Many of these are qualitative in nature.

With the explosion of the HIV epidemic in SA in the late 1990s, the focus seems to have shifted from teenage pregnancy to HIV. National data became available on both the trends and determinants of sexual behaviour of adolescents. As unprotected sex results in both pregnancy and HIV, the review was able to draw on this larger body of literature. It is noteworthy that a distinct focus of research on teenage pregnancy has been overtaken by HIV and AIDS research.

Research on the risks factors related to teenage pregnancy has primarily been conducted among African and Coloured adolescents for whom rates are high. As such research on the determinants of teenage pregnancy is not available for the White and Indian population groups, for whom rates tend to be much lower. Important lessons can be learnt about protective factors among White and Indian population groups.

The focus of research on teenage pregnancy has been among young women. Very little data is available on the profile, determinants and experiences of young fathers. Given that sexuality is a shared experience and that many of the risks that young women face are through imbalanced gender relations, much more emphasis needs to be placed on the role of young men in teenage pregnancy. Studies need to explore the discordant views that paint young men as perpetrators and disengaged from their familial responsibilities

from the perspective of young women, as opposed to the view of young men that they hold a deep sense of responsibility for their children and want to be involved in their lives.

When risk factors are governed by cultural and socio-economic conditions, they are also time dependent and need to be reviewed regularly. SA has undergone significant socio-economic shifts since the 1990s when a large body of literature on teenage pregnancy was generated. While positive attitudes towards teenage pregnancy were linked to cultural endorsements of fertility, attitudes have shifted significantly over the past decade, strongly influenced by increasing educational and economic aspirations and opportunities. Hence regular determinants studies are required in keeping with changes in cultural and socio-economic conditions.

Interventions

Although a range of interventions have been implemented in SA to influence adolescent sexual behaviour, their focus is generally on preventing HIV rather than pregnancy. In addition, the small number of, and lack of rigour with which, evaluation studies are conducted limit the extent to which firm conclusions can be reached about their efficacy. Nevertheless, when combined with the larger body of literature available internationally, a number of promising approaches can be identified. However, many more rigorously evaluated efficacy (to show that programmes work) and, in particular, effectiveness (to show how programmes can be implemented within existing infrastructure) intervention studies are required. While pregnancy prevention programmes should not be separated from HIV programmes because of their common antecedents, caution is required to prevent pregnancy from being subsumed and, in some respects, neglected in favour of the overwhelming challenges that HIV presents to young people. Pregnancy prevention needs to be a distinct outcome of reproductive health programmes.

In addition, a distinct focus of research on second chance programmes for reproductive health is required to respond to the large cohort of young people who have, and will continue to experience unintended pregnancies.

No doubt a number of community organisations are providing a range of prevention and second chance programmes for teenage pregnancy in SA. However, without adequate documentation of the programme or evaluation of its efficacy, it is difficult to make recommendations regarding wide-scale implementation. A mapping exercise should be considered to identify the range and scope of interventions currently being provided in SA.

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Appendices

Appendix 1: Literature search strategy

Database	Region covered	Description
Ebsco Information Services: Ebscohost Web	International	Ebsco Information Services covers a range of educational, medical and psychological databases (13)
Elsevier Science Science Direct	International	ScienceDirect contains over 25% of the world's science, technology and medicine full text and bibliographic information, including over 2000 journals from Elsevier.
ProQuest: ProQuest databases	International	The ProQuest collection consists of a range of business, educational and psychological databases (10).
NISC: African HealthLine	Africa	African HealthLine (AHA) is an electronic information resource which is an aggregation of 13 bibliographic databases from around the world. The databases are sourced worldwide and cover all aspects of health.
NISC: African Journals Online	Africa	African Journals OnLine (AJOL) is a database of journals published in Africa, covering the full range of academic disciplines.
SABINET: Sabinet Online complete list of databases	South Africa	Link to the Online Reference database which lists all Sabinet Databases (26) including South African publications, current and complete research, provincial legalization, statutes and parliamentary bills.

Appendix 2: The HSRC 2003 Status of the Youth Survey – Methods

Introduction

This section of the report summarises the parameters for the collection of quantitative data for the survey component of the HSRC Status of Youth Survey 2003 (SYR). It details aspects of the sample design and fieldwork, including training of fieldworkers.

Sample design

A self-weighting sample was designed, based on the most recent available data from Statistics South Africa. Thus, the major reporting domains of the sample were drawn so that they were proportional to that of Census 2001. Households (primary sampling units) were selected to render a national sample of 3 500 young people, representative of population group and province. The Census 2001 enumeration areas (EAs) selected by the HSRC's Surveys, Analysis, Modelling and Mapping Unit were associated with their different municipalities and plotted on a national map.

Route maps were prepared to identify each primary sample unit in the sample design within each district and in each province. These maps served as a guide for the survey teams into the correct enumeration area and to the selected households within each area.

The original sample size was 3 500. The fieldwork company targeted 3 600, so as to allow for refusals and incomplete questionnaires. Response rate to the targeted sample of 3 600 was 98.36%. Thus the actual response was 1.17% more than the design. Minority population groups were slightly over-sampled in the study but, as this is so slight, it does not change the self-weighting nature of the sample.

Method for random selection of the sample

The SYR sample was drawn using the 2001 Census to estimate a number of visiting points in an enumeration area. An enumeration area is defined by Census 2001 to consist of a number of households, usually between 100 and 200 visiting points. A visiting point is defined as a residential stand, address, structure and flat in a block of flats or homestead. In order to select an individual to be interviewed, the following route was followed:

The number of individuals to be interviewed in each province was chosen such that they were proportional to the number of young people found in the province as provided by Census 2001.

The enumeration areas were chosen according to five residential types, namely, urban formal, urban informal, rural traditional, rural farms and hostels. The number of enumeration areas selected from each type was proportional to those defined in the Census.

Visiting points within each enumeration area were chosen randomly.

If there was more than one household at a visiting point, one household was randomly selected. Within each household, if there was more than one young person within the ages 18 to 35, one person was randomly selected.

The fact that the selection of young people hinged on their availability within the household during November and December, the latter being a traditional holiday month, might have resulted in some unintended bias. For

example, higher education levels were found in the sample compared to those reported in other studies and it could be that such individuals are less mobile because they have employment and were thus more likely to be selected into the SYR study.

Substitution of dwellings

Interviewers were not allowed to substitute households selected for interviews except with the permission and in the presence of field supervisors who were trained in the rules for substitution. Substitution was allowed only if a selected dwelling was found to be empty, there was no eligible young person resident in the household, residents were not at home for an extended period of time or there were obvious physical dangers posed to the lives of interviewers. Refusal to be interviewed was not an acceptable ground for substitution. Where substitution of a dwelling was required, the nearest dwelling next to the original, to right of the interviewer (when facing the entrance to the dwelling), was considered first. For this new dwelling to be chosen, it had to have a fairly similar profile as the one to be substituted. For example, in an enumeration area with a mixture of formal and informal dwellings, an informal dwelling could not be substituted with a formal dwelling. If, for any reason, the dwelling immediately next to the interviewer on the right was not eligible, the dwelling immediately to the left of the field worker was chosen as a substitute, observing the rule of similarity.

Selecting eligible young people

All eligible young people (18-35 years of age), in every household selected for interview, were identified from a brief conversation with a principal respondent in the household. Within the household, selection of one young person to be the respondent in the survey was entirely random, achieved through a blinding procedure. Only the age-group criterion (18-35 years) was used. If a potential respondent met this criterion other attributes, such as specific single age, gender or race, were not taken into account in selecting one out of all eligible young respondents. If only one person was eligible in the household, the person was interviewed and the random selection process did not apply.

Data quality

Emphasis was placed on the collection of high quality data. As a result, several measures were put in place to monitor key areas of survey data collection that are susceptible to errors. Office-based monitors and quality control specialists conducted random checks to determine the location and activities of field workers. In the course of the checking visit, they also collected and reviewed completed questionnaires for immediate corrections where errors were identified. The quality control staff also conducted random call-backs on ten percent of the sample using an abbreviated form of the questionnaire, consisting of questions selected for quality check purposes.

Questionnaire development

Concepts of youth development and transition to adulthood, as part of the life cycle approach, were adopted as the conceptual framework for the survey. What can be found from literature on this subject as indicators of a successful transition to adulthood are, among others: completion of education, entry into the labour force, establishment of an independent household, attainment of financial independence, marriage and parenthood, civic engagement and healthy lifestyle choices. The areas of youth education, youth employment and youth civic engagements were selected as critical aspects of youth development and these topics formed the focus of the questionnaire design. The principles for questionnaire development and a draft of the questionnaire

were approved by UYF. The questionnaire had six sections:

- General demographic and other background information on respondents
- Employment
- Education
- Community and civic engagement
- Health and disability
- Social development

Each section of the questionnaire consisted of questions that aimed at establishing external conditions of young people, as well as their views and attitudes on issues affecting them.

Ethical considerations

The survey followed the generally established principles regarding ethics of social research. These principles include written voluntary and informed consent by selected individuals, and the principles of anonymity and confidentiality. The proposal for the survey was submitted to the HSRC Research Ethics Committee and authorisation was given to conduct the survey.

Pilot study

A pilot study preceded data collection. The main purpose of the pilot study was to test the survey questionnaire. Three areas were visited: a suburb and a township in Pretoria, and a rural area in the Northwest Province. Thirty people, ten from each area, were interviewed using the draft questionnaire. Lessons learned during the pilot study were used to refine the final version of the questionnaire. These included: avoiding repetitive questions, improving the clarity of questions and response categories, filling gaps in the questionnaire and shortening the questionnaire. Following minor and mainly layout changes, the questionnaire was finalised based on experiences from the pilot study. The questionnaire was reproduced in English but administered in different vernacular languages.

Training of fieldworkers

The development of training manuals for field survey staff was also based on experiences gained during the pilot study. Training for field workers took place centrally at the offices of The Africa Strategic Research Corporation in Johannesburg. All members of the fieldwork team, including the team leader, regional leaders and quality control specialists attended the training. Researchers from the HSRC were also present.

All aspects of the survey, including identification of respondents and quality control, were dealt with during the training. Field interviewers were chosen on the basis of a balanced combination of racial characteristics to ensure that the sample design was effectively achieved. In view of the time constraints it was decided not to translate questionnaires from English into all eleven official languages. The field workers were trained in the correct meaning of terms used in English and their translation into the other languages using the experience gained during sample interviews in the pilot study. In addition, the interview teams were constituted in ways that represented all predominant languages spoken in each sample area. All fieldworkers were multi-lingual.

Respondents were offered the choice to be interviewed in their preferred languages. However, to standardise response categories for data entry and analysis, all response options in the questionnaires were presented in English.

Fieldwork

The fieldwork commenced simultaneously in all provinces immediately after the training. Field workers worked in teams of two to three with one team leader/supervisor guiding their work. The team leaders identified enumerator areas, used the simple random sample rule provided to them to select households and which young people were to be interviewed, and introduced the interview teams.

Challenges

The main challenge faced by the fieldwork team was pressure of time. Data collection was initially designed to commence at the beginning of October 2003 to allow for a minimum of two and half months of data collection in the field. However commencement of data collection was delayed until November due to a number of logistical and practical constraints. Additionally, towards the end of November, several EAs in the sample showed significant movement of people - especially from urban to rural areas for the Christmas holidays. This put more pressure on the interview teams to complete their work as soon as possible.

However, the compressed survey time and the temporary movement of people during the holiday season were accommodated by increasing the size of the fieldwork teams in order to complete data collection on schedule. Data entry ran concurrently with data collection. An advantage of this approach is that it provided an opportunity for office editors to relay any data errors to field workers for immediate correction while they were still in the field.

Although the questions were generally found to be acceptable, respondents pointed to the sensitive nature of some personal (especially sexual) questions. However, there was no evidence of biased responses or selective non-response to these questions. Interviewers were well trained to handle these questions and the questions were strategically placed in the questionnaire to be asked when respondents were well acquainted with the objectives of the survey and relaxed with the interviewers. Respondents' comfort with the questionnaires was also increased by having women interviewers in the team interview females and male interviewers interviewing men.

