Improving the Future of Maternal and Child Health in Sub-Saharan Africa by Investing in Adolescent Girls

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Research to Practice Policy Briefs

PB-2013-18 | shelley.clark@mail.mcgill.ca
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This report was prepared by Shelley Clark at the request of the Institute for the Study of International Development, McGill University. All opinions and errors are attributable solely to the author.
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Executive Summary

The premise of this policy brief is simple: The most effective way to dramatically reduce maternal and child mortality in sub-Saharan Africa over the next decade is to invest in adolescent girls’ educational and economic opportunities today. The goals set forth by MDG 4 (decrease child mortality by two thirds) and MDG 5 (reduce maternal mortality ratio by 75%) are already unlikely to be reached by 2015. What is more, we will continue to fall short of these objectives over the next ten years if the developmental needs of adolescent girls continue to be neglected. Continued investment of resources to improve access to high quality health services, medical treatments, and technology development are necessary and important to reach these goals. But they are not sufficient as long as the root causes of poor maternal and child health outcomes remain unaddressed.

Devoting resources to improving the social and economic opportunities of adolescent girls offers a proactive approach with multiple long-lasting effects on not only these girls directly, but also on their future families and communities. The profound effect of women’s education on child survival is well-established. Improvements in women’s education account for half of the decline in child mortality since 1970. Other equally impressive effects are less well-known. Girls who attend secondary school, for example, delay sexual debut, pregnancy, and marriage by several years, resulting in lower rates of sexually transmitted infections (STIs) and HIV, teen pregnancy, unsafe abortions, and single adolescent motherhood. Consequently, increasing girls’ schooling will make their pregnancy and motherhood experiences safer and reduce maternal mortality. Alleviating adolescents’ poverty and developing their income-generating skills will also offer girls alternatives to early motherhood and marriage and provide them and their families with the economic resources to improve their nutrition, sanitation, and utilization of health services.

Although typically viewed as outside the realm of maternal and child health programs, we recommend the following four policy and program options to most effectively lower maternal and child deaths in sub-Saharan Africa in the next 10 years:

1) Extend girls’ education until at least the age of 16;
2) Increase access to family planning and nutritional health for adolescent girls;
3) Provide support for both married and single adolescent mothers through return to school programs and high-quality, affordable day care; and
4) Create financial literacy programs and economic opportunities for adolescent girls.
Background

Globally, maternal and child health (MCH) are showing encouraging trends. After decades of stagnation, a landmark paper in 2010 documented precipitous declines in maternal mortality rates (Hogan et al. 2010). Maternal deaths fell worldwide from over 525,000 in 1980 to below 350,000 in 2008, with a corresponding decline in the maternal mortality ratio (MMR) falling from 422 to 251 per 100,000 live births during this period (Hogan et al. 2010). At the same time, under-five child mortality declined. Between 1990 and 2008, child mortality dropped 28% from 90 deaths per 1,000 live births to 65 deaths. The total number of annual child deaths fell from 12.5 million in 1990 to 8.8 million in 2008 (You et al., 2010). Yet, researchers on both maternal and child mortality tempered their enthusiasm and cautioned against apathy. Despite considerable progress, for example, only 23 countries are on track to achieve MDG 5, which aimed to reduce MMR by 75% between 1990 and 2015. Meanwhile, only 10 of the 67 countries with mortality rates above 40 per 1,000 births are expected to meet MDG 4 - to decrease by two thirds child mortality between 1990 and 2015 (You et al. 2010).

Nowhere are these words of caution more applicable than in sub-Saharan Africa (SSA) which continues to lag far behind other regions in combating both maternal and child mortality. In 2008, 1 in 7 children in SSA could be expected to die before reaching their 5th birthday (You et al. 2010). As a result of high fertility and slow reductions in child mortality, the absolute number of children who died in sub-Saharan Africa actually increased from 4.0 million to 4.4 million from 1980 to 2008 (You et al. 2010). Half of all child deaths now occur in SSA, despite this region accounting for less than 15% of the global population. MMRs in SSA have also shown little improvement. In eastern and southern Africa MMR has actually risen, partly as a result of the HIV/AIDS epidemic in these areas (Hogan et al. 2010). Twelve countries in SSA bear an MMR of more than 1,000 deaths per 100,000 live births (Economic Commission for Africa, 2009). Other indicators of maternal health have also faltered. The proportion of women who had their deliveries assisted by a skilled health attendant rose by a meager 3% from 42% in 1990 to 45% in 2005 (Economic Commission for Africa, 2009).

As global researchers and health care professionals gradually accept that neither MDG 4 nor MDG 5 is going to be met in SSA, there are calls to stay committed to these goals beyond 2015 and to redouble efforts, specifically focusing on new technologies and medical interventions. Effective medical interventions to both prevent and treat most of the main causes of maternal mortality and child mortality have been known for decades. Moreover, many of these interventions such as ORT for diarrhea, treated bednets to prevent malaria, basic vaccinations, and cord clamping are not only well-known, but relatively inexpensive. Failure to universally adopt these measures has left researchers puzzled and health practitioners frustrated. Many donors, researchers, and practitioners have turned to newer, and often cheaper, medical technologies such as misoprostol and oxytocin to treat post-partum hemorrhage. Increasingly these groups are turning to mHealth (mobile health) to improve several different facets of MCH, such as facilitating emergency medical responses, improving point-of-care services by connecting less skilled health providers to distant experts, increasing health promotion by sending reminders of prenatal visits or proper child nutrition and care, and facilitating data collection to improve knowledge of the health needs and gaps in specific communities. All of these potential uses of mHealth hold promise, but only a few studies have systematically
examined their impacts, and most have found minimal, if any, improvements (Noordam et al. 2011, Tamrat and Kachnowski 2012). Moreover, several researchers have drawn into question the sustainability and scalability of several mHealth programs (Tamrat and Kachnowski 2012). For example, one study of mobile phones which sent women SMS messages to attend prenatal visits and skilled attendance at birth found an increase in skilled attendance at birth for women living in an urban area, but no increase among rural women (Lund et al. 2012).

Moreover, several researchers have drawn into question the sustainability and scalability of several mHealth programs (Tamrat and Kachnowski 2012). For example, one study of mobile phones which sent women SMS messages to attend prenatal visits and skilled attendance at birth found an increase in skilled attendance at birth for women living in an urban area, but no increase among rural women (Lund et al. 2012).

Offering proven medical technologies and exploring the potential of new technologies is vital to continuing to chip away at MCH. Yet, we contend that exclusive focus on these strategies is insufficiently rapid and ignores the biggest and most important fundamental driver of MCH in SSA, namely the social and economic well-being of adolescent girls today. Meeting MDGs 4 and 5 by 2025, or even by 2035, requires earlier preventive interventions in the domain of social and economic development. These interventions include increasing girls’ enrolment in secondary school, improving their access to family planning services, offering educational and daycare services to adolescent mothers, and providing financial literacy and economic opportunities for adolescent girls. In short, to significantly improve MCH over the next ten years requires investments in adolescent girls today.

**Why focus on the socio-economic status of adolescent girls?**

Sub-Saharan Africa has a youthful population. Over one-third of its total population is between the ages of 10 and 24, and the proportion of young people continues to grow (Hervish and Clifton 2012). The reproductive and sexual experiences of these young women over the next 5, 10, and 15 years will be the main determinant of overall MCH in this region. Another important reason to focus on adolescents is that girls undergo remarkable changes during this time period. Adolescence is a pivotal developmental period which shapes girls’ future life trajectories. Thus, interventions during adolescence can be remarkably effective, particularly if these interventions occur during early adolescence (between ages 10 to 14). Enriching girls’ social and economic environment and equipping them with the knowledge to make informed choices during this period has the potential to transform their lives. Early adolescence is a critical time when decisions about a girl's schooling, sexual behaviors, economic resources, and marital aspirations will set the stage for her future life trajectory. As such it also has critical ramifications for her family and her community.

To the extent that the MCH research and policy community or the MDGs acknowledge adolescent girls, they tend to focus on adolescent birth rates, which are especially high in SSA. Indeed, the only mention of adolescents in “Assessing Progress in Africa Towards the Millennium Development Goals 2009” simply noted that “a pregnant adolescent has a higher probability of dying during child birth” and “a child born to an adolescent mother is at greater risk of dying in infancy or childhood” (Economic Commission for Africa, 2009, pg. 28). Girl children (under the age of 10) receive considerable attention in this report as MDG 2 pertains to primary education and MDG 4 addresses child mortality. Similarly, the status of adult women (above the age of 18) is emphasized in several of the MDGs, and especially in MDG 5 on maternal mortality. Yet, adolescents, particularly adolescent girls, are almost completely absent in these goals.
In this brief, we argue that fully addressing the needs of adolescent girls requires taking a broad social, economic, and health perspective. Policy should continue to focus on adolescent girls’ current needs, such as providing better family planning and safe abortion services to reduce teen fertility rates and STI/HIV infections. However, an additional focus on investing in girls’ education and economic opportunities can trigger a cascade of long-term beneficial effects.

Figure 1 displays the multiple pathways through which improvements in girls’ education and economic status leads to better maternal and health outcomes. Although this figure may at first appear complex, each of the arrows depicted is supported by extensive and rigorous empirical research. Moreover, the complexity of these relationships is evidence of the multiplicative effect of these investments. Below we trace the effects of adolescent girls’ education and poverty on MCH by highlighting key research findings.
How Adolescent Girls’ Education Impacts MCH

The last two decades have witnessed impressive improvements in access to primary education for both boys and girls. By making free universal primary school one of their chief objectives, many governments in SSA have brought about radical change in the likelihood that a child under the age of 14 will be in school. Yet despite remarkable gains in meeting the MDG 2 of universal primary education, in more than half of the countries in SSA less than 50% of children complete grade 5. Even by grade 5, most countries report that boys are more likely to be in school than girls by at least 10 percentage points. Improvements in access to secondary schooling have been much less impressive. Moreover, the gender gap is larger in secondary school (Lloyd and Young 2009). In fact, the secondary school gender gap has actually worsened in SSA since 2000 (Lloyd and Young 2009). In Burundi, Tanzania, Nigeria, Senegal, Burkina Faso, Mali, and Cameroon, less than 50% of girls even begin secondary school (Hervish and Clifton 2012).

The profound effect of women’s education on child survival in SSA and other developing regions is one of the first identified and best-known social determinants of health (Ware 1984, Hobcraft 1993, Glewwe 1999). According to a recent study, improvements in women’s education can be credited with fully half of the decline in child mortality from 1970 to 2009 (Gakidou, Lozano, and Murray 2010). While the strong relationship between girls’ education and child mortality is well-known, the links between adolescent girls’ schooling and maternal health are equally strong, but less often reported in the MCH literature. Indeed, while several studies have attempted to identify the causal pathways linking women’s education to child survival, to our knowledge, similar studies have not been conducted with respect to maternal health. Below we trace the effect of adolescent girls’ schooling on both child and maternal health.

The effect of education on poverty

The strong bi-directional relationship between education and poverty cannot be overstated. Here we will highlight the ways in which girls’ education affects their long-term poverty levels. Below in the section “the effect of poverty on education”, we will outline the ways that poverty impacts educational attainment for girls.

Studies on how women’s education lowers child mortality suggest that the greater wealth achieved by more educated women accounts for about half of the overall effect of education on child mortality (Hobcraft 1993). Higher education reduces girls’ long-term poverty through two main mechanisms. First, education offers girls the opportunity to secure better paying jobs. This is especially true if girls finish secondary school. In fact, while the economic returns to education are highest for both boys and girls who have completed secondary school, the returns are actually higher for girls than for boys (Lloyd and Young 2009). Second, better educated women are also more likely to marry better educated and wealthier men, thereby increasing the
household wealth of their children. These reductions in girls’ poverty are likely to lead to not only better child health outcomes, but also to better maternal health outcomes through improved nutrition, sanitation, and access to health care, as we will further explore below.

The effects of education on early sexual debut

Schooling also transforms girls’ sexual behaviors. Schooling shapes girls’ preferences of when they become sexually active, whom they wish to marry, and when they marry. There is a strong correlation between being in school and delaying sexual debut. In 25 of 27 countries in SSA, girls aged 15-17 who are not in school are more likely to be sexually active than girls who are in school (Lloyd and Young 2009). Mounting evidence indicates that is relationship is causal— not merely associational— and that being in school deters girls from becoming sexually active (Biddlecom et al. 2007, Clark and Mathur 2012, Poulin 2007). Moreover, both the quality of the schooling and girls’ performance in school are strongly associated with delayed sexual debut (Clark and Mathur 2012, Mensch et al. 2001). Delaying sexual activity in turn reduces girls’ risk of acquiring STIs, including HIV, which are common in many parts of SSA. Adolescence is a particularly dangerous time with respect to HIV for girls. Between the ages of 15 and 24, the risk of acquiring HIV is 2 to 8 times higher for girls than for boys (Laga et al. 2001). Girls who are in school are significantly less likely to be HIV-positive than girls who are out of school (Hargreaves et al. 2008).

Delaying sexual debut also increases the age of first pregnancy. Subsequently, girls who are enrolled in school and doing well (i.e. have not fallen behind in their grade level) are significantly less likely to become pregnant (Grant and Hallman 2008; Marteleto, Lam, and Rachhod 2008). Adolescent pregnancies, particularly those that occur outside of adolescent marriage, are frequently unintentional and unwanted. Yet, access to safe and legal abortion services is rare in SSA. Although abortion rates are lower in countries with liberal abortion laws, the large majority of countries in SSA restrict access to abortion services typically only to cases when the woman’s life is in danger (Sedgh et al. 2012). Consequently, in 2008, only 3% of abortions in SSA were performed under safe conditions (Sedgh et al. 2012). Globally, 13% of maternal mortality is attributable to unsafe abortion. Although the relative impact on adolescent girls’ health is unknown, adolescent girls may find it particularly difficult to locate medically trained practitioners who are willing to perform abortions even, when their lives are in danger. Desperation may drive other girls to seek unsafe methods, particularly if carrying their pregnancy to term would engender social stigma or compel girls to leave school.

Adolescent girls who carry the pregnancy to term face other risks. In some countries, the maternal morbidity rates for adolescents are six times higher than those of adult women (Zabin Schwab, and Kiragu 1998). Because of their underdeveloped pelvis, adolescents also suffer from higher rates of obstructed and prolonged labour, often resulting in vesico-vaginal fistulae, and infectious morbidity (WHO 2007). Without access to safe emergency caesarean delivery services, which are rare in rural Africa, both mothers and infants are likely to die (Zabin Schwab, and Kiragu 1998). Adolescent pregnancy is also associated with a wide-range of child health outcomes, including a 50% increase in the risk of stillbirths and neonatal deaths, as well as an increased low birthweight (WHO 2007).
These immediate poor birth outcomes affect the children of all adolescent mothers regardless of their marital status. Yet, other measures of child well-being, including child mortality, tend to be worse for the children of single (i.e. unmarried) adolescent mothers. A study of 11 countries across eastern, southern, central, and western Africa found considerable variation in the rates of premarital childbearing, ranging from a low of 5% in Ethiopia to nearly 35% in Liberia (Clark and Hamplová 2013). This study also found that in 6 of these 11 countries, the children of never-married women were significantly more likely to die before reaching the age of five compared to children of married mothers.

**The effects of education on early marriage**

In addition to delaying sexual debut, secondary schooling delays age at marriage (Mensch, Singh, and Casterline 2005). Although the age of first marriage for girls has risen in most countries, child marriage remains common. According to recent U.N. estimates, 1 in 3 women currently aged 20-24 was married before the age of 18, amounting to nearly 70 million women (Vogelstein 2013). Prevalence rates are often highest in SSA. In Burkina Faso, Southern Sudan, Mali, Mozambique, Guinea, Central African Republic, and Chad, over half of girls will marry before age 18. In Niger, nearly three-quarters of females marry as children or adolescents (Vogelstein 2013). All but 4 countries have laws prohibiting early marriage (usually defined as below the age of 18), but these minimum age of consent laws have had little effect. Instead, we find that where secondary school is available and affordable for adolescent girls, child marriage declines. While early marriage casues some girls to drop out of school, only between 10% and 20% of girls give marriage as the main reason they stopped attending school (Lloyd and Mensch 2008). Causation in the other direction, however, is very strong. When a girl drops out or is removed from school, she is far more likely to marry (Lloyd and Young 2009).

Early marriage leads to poor MCH outcomes, primarily because early marriage precipitates early pregnancy. Young wives are under considerable pressure to prove their fertility and establish their position within their new households. With the exception of some countries in southern Africa, such as Botswana and South Africa, the vast majority of adolescent births occur within marriage (Zabin and Kiragu 1998). While marriage often confers greater social support from kin and fathers, thus improving some indicators of child well-being, it has no effect on the physical implications and dangers associated with adolescent pregnancy. Married pregnant teenagers, like unmarried pregnant teenagers, face the sequelae of negative health outcomes for teen mothers and infants detailed above, including obstructed and prolonged labour, fistula, pre-eclampsia, anemia, and hemorrhage (WHO 2007). Nor does marriage project adolescent girls from the risks of contracting HIV/AIDS. Indeed, given the higher frequency of unprotected sex with older partners that typically occurs within marriage, girls in early marriages have higher rates of HIV/AIDS than sexually active unmarried girls (Clark 2004; Clark, Bruce and Dude 2006).

**How Adolescent Girls’ Poverty Impacts MCH**
The relationship between poverty and poor MCH outcomes is so pervasive that it is often taken for granted. Yet, two aspects of this relationship warrant specific mention. First, relative poverty, and not simply absolute poverty, influences MCH. Within the global public health community, emerging research is showing a clear health gradient where socioeconomic inequalities are strongly predictive of health inequalities across a wide range of health indicators. These studies highlight the need to focus resources on the poorest of the poor. A study of 45 developing countries, including SSA, found that while on average nearly 90% in the wealthiest quintile (upper 20%) had professional care at delivery, only 23% of women in the poorest quintile did (Houweling 2007). Similarly, they found that over 60% of children in the richest quintile where fully immunized, compared to less than 40% of children in the poorest quintile (Houweling 2007). Additional studies confirm that there is a strong survival advantage for newborns (McKinnon et al. 2013) and children (Wagstaff 2000) born to wealthier parents. Unfortunately, several studies indicate that improving access for all by reducing user fees or improving the quality of services does not appear to be leading to reduced MCH inequalities (McKinnon, Harper, and Kaufman 2013; Moser et al. 2005).

Second, while the pathways linking poverty and poor MCH indicators for adult women may be similar to those for adolescent girls, many of these mechanisms, such as limited access to healthcare or poor nutrition, may prove to be even greater obstacles for poor girls than for poor women. At the same time, interventions for girls may be more effective as they are undergoing a variety of transitions. Thus, earlier poverty reduction interventions for adolescent girls may have more transformative power and longer-lasting impacts on their future sexual and reproductive health trajectories.

**The effect of poverty on education**

Perhaps one of the most important mechanisms through which poverty influences maternal and child health is through educational opportunities. As shown in Figure 1, there is a strong bi-directional relationship between schooling and poverty. Not only does failing to attend school limit the economic earning potential of girls, but household poverty can prevent girls from being enrolled in school. Lack of sufficient household resources is one of the most common reasons adolescent girls say they dropped out of school (Lloyd and Young 2009). Not only are poor households often unable to pay fees associated with schooling (for example, for uniforms, textbooks and transportation), but they also are more likely to rely on young girls to earn income as child laborers or assume a large burden of household chores, such as cooking, fetching wood and water, and child care. Conditional and unconditional cash transfer programs in sub-Saharan Africa (and elsewhere in the developing world) further demonstrate that financial constraints prevent children from attending school. When these constraints are lifted through increasing the amount of cash available in the household, school attendance increases significantly for both boys and girls. Interestingly, a recent study in Burkina Faso suggests that unconditional cash transfers increased school attendance by children who were traditionally favored by their parents (boys, older children, and children with greater scholastic aptitude), girls and other “marginal” children, were only more likely to attend school if the transfers were conditional on the child regularly attending classes (Akresh, de Walque, and Kazianga 2013). A similar study, which focused exclusively on adolescent girls in Malawi, also found that conditional cash transfers
were more effective at keeping girls in school than unconditional cash transfer programs (Baird, McIntosh, and Özler 2011).

The effect of poverty on early sexual debut and early marriage

As described above, leaving school in turn impacts critical behaviors such as the timing of first sex, pregnancy, and marriage. Yet, poverty and economic constraints may also directly impact girls’ timing of sexual debut and delay marriage. Throughout SSA, “sugar daddies” are often the focus of public media and public health campaigns which warn young girls of the dangers of engaging in transactional sex with older men. While research suggests that the role of these sugar daddies in enticing girls into an early sexual debut or spreading HIV may be somewhat exaggerated (Luke 2003), the links between economic disadvantage and risky sexual behaviors are strong (Mojola 2011).

Poverty is also a major driver of early marriage. In most cultures in SSA, the groom’s family is expected to pay a brideprice to the girls’ family as part of the marriage process. Thus, marrying a daughter off at a young age not only reduces the number of mouths to feed in the household, it also yields a substantial infusion of wealth. The strong associations among poverty, sexual debut, pregnancy, and marriage across SSA have been well-documented. More recently, experimental and quasi-experimental studies are verifying these causal relationships. A recent large randomized experiment in Kenya, for example, demonstrated that educational subsidies for girls led to lower rates of adolescent pregnancy and early marriage, although it had no direct effect on STIs without including an HIV curriculum (Duflo, Dupas, and Kremer 2011).

The effect of poverty on nutrition, sanitation, and access to health care

Lastly, household income and resources are directly related to adolescent girls’ level of overall nutrition, sanitation, and access to health services. Poverty undermines food security and reduces the variety and nutritional quality of foods consumed. The implications of poor nutrition on child health are well-known. Although often acting through increased disease and diarrhea, malnutrition is associated with 40% of child mortality in low-income countries. The effects of malnutrition on women’s maternal mortality are also clearly established: deficiencies in iron, vitamin A, and zinc are associated with preeclampsia, hemorrhage, and prolonged labor.

Poor nutritional status may have even more severe implications for adolescent girls’ reproductive outcomes than for the MCH of adult women. Not only are the nutritional demands of pregnancy especially tasking for adolescent girls, but meeting the nutritional needs of all adolescent girls (not just those who become pregnant) is important as it prepares them to take on adult reproductive roles (Lartey 2008). For example, under-nutrition may further stunt the growth and development of adolescent girls’ pelvises, putting them at risk of prolonged and obstructed labor both during adolescence and later in life. Poor nutrition may also be associated with greater rates of uterine restriction, leading to even lower birth-weights. Anemia affects more than half of all adult women in SSA, though it is most severe during adolescence when girls’ developing bodies require more iron and when worm infestation rates are at their peaks. Women who are anemic suffer from greater maternal morbidity and mortality. Interestingly, even women’s pre-conception nutritional status (mainly during adolescence) affects their maternal health and child
outcomes. For example, one study found that the odds of having a low birth-weight baby were 6.5 times higher among women with pre-conception anaemia than those without anaemia (Ronenberg et al. 2004).

Lastly, adolescent girls with limited economic resources have less access to health facilities compared to adult women. In their classic conceptual model for assessing the determinants of maternal mortality and morbidity in low-income countries, McCarthy and Maine (1992) identified access to health services, including the location, range, and quality of services, as a main predictor of maternal health outcomes. Improving access to health services has continued to remain one of the top priorities in the field of maternal and child health, yet reaching adolescent girls, particularly poor adolescent girls, remains a main challenge. Family planning programs, for example, have developed several different mechanisms for making their services more appealing and accessible to adolescent girls, however, preliminary studies suggest that such services are mainly used by wealthier and better educated girls, even when contraceptive methods are provided for free.

Policy Priorities

What will it take to meet MDGs 4 and 5 and to substantially reduce child and maternal mortality in the coming decade? How can we help ensure that women in SSA are physically, economically, and mentally best prepared to take on the role of motherhood? Achieving these goals will require policymakers to look prospectively and consider long-term preventive measures. They must also address the underlying social and economic conditions that drive these poor MCH outcomes and perpetuates them from one generation to the next. Development agencies, such as CIDA, are well positioned to make these types of cross-sectoral investments.

Above we outline the ways in which adolescent girls’ education and poverty influence MCH. By illustrating the complex casual chain linking girls’ education and poverty to MCH outcomes, Figure 1 highlights several opportunities for effective policy interventions which will have multiple benefits on the future of MCH in SSA.

1) **Extend girls’ education until at least the age of 16**

Conditional cash transfer and quasi-experimental studies suggest that subsidizing adolescent girls’ education to ensure that direct extraneous costs such as books, school uniforms, and transportation, and indirect (opportunity) costs of schooling are covered a) increases educational attainment, b) delays sexual debut, c) reduces teen pregnancy, and d) prevents child marriage. Yet, simply increasing educational enrolment will not be sufficient. Policies should also aim to improve the quality of schooling and examine the potential of revising the school curriculum or expanding non-formal educational options for adolescent girls (Lloyd and Young 2009).

2) **Increase access to family planning and nutritional health services for adolescent girls**
Most current MCH programs in SSA are aimed at meeting the needs of children and adult women, but the health needs of adolescent girls are typically overlooked. Nonetheless, increasing access to family planning services and improving the nutritional status of adolescent girls would have a major impact on MCH in SSA in the next decade. Organizations such as Marie Stopes and Population Services International have been active in promoting youth-friendly services and adolescent-friendly corners to improve access to family planning services for adolescent girls. Some of these outreach programs are provided as part of youth-oriented centres, while others are integrated into mainstream family planning services. Both approaches have their limitations. Clientele at youth centres is often disproportionately older males aged 16 to 24 rather than younger females aged 12-18. Integrating adolescent family planning services into adult services also encounters problems. Young girls are often hesitant about approaching these services for fear of disclosing that they are sexually active to the broader community. Attitudes among healthcare providers at family planning clinics can also be hostile and judgemental towards unmarried girls seeking contraception. Yet increasing access to contraception for adolescent girls is probably one of the most efficient and cost-effective means of improving MCH in the next decade. Contraception enables girls to avoid unwanted childbirth and the increased risks for both women and children of adolescent pregnancy, delivery, and motherhood. Increasing contraceptive availability is one of the most effective means of reducing demand for abortion services, which is particularly important when access to safe abortion procedures is limited.

In addition to family planning, more attention needs to be given to adolescent girls’ nutritional health. High rates of anemia, parasitic worm (helminthes) infections, malaria, and under-nutrition all compromise the growth of an adolescent girl's pelvis and undermine her reproductive capacity. Poor adolescent nutritional health, therefore, not only leads to poor reproductive outcomes for adolescents who become pregnant, but they also affect women’s subsequent reproductive outcomes. Increased efforts to offer nutritious school lunches (possibly fortified with iron) and intensified de-worming programs (typically administered through schools) are important steps to improve adolescent girls’ nutritional health, but other programs are also needed to reach particularly poor girls who are likely to be out of school.

3) Provide greater support for both married and single adolescent mothers through return to school programs and high-quality, affordable day care

When an adolescent girl becomes a mother, her educational and occupational prospects are often curtailed by the need to care for her newborn. Historically, many countries in SSA expelled pregnant girls from school and refused to readmit teen mothers. Recently, South Africa and other countries have reversed these policies and now actively encourage young mothers to return to school (Madhaven and Thomas 2005; Marteleto, Lam, and Ranchhod 2008).

However, even with more progressive school policies, teen mothers may not be able to return to school unless they can find suitable childcare. Traditionally, many adolescent girls have been able to rely on their families, particularly the child’s grandmother, to assist them. But in cultures where premarital motherhood is culturally stigmatized, young mothers may receive little support from kin. Moreover, increasing rates of migration and urbanization are reducing the availability...
of kin to provide this support. Thus, it is becoming increasingly necessary for both adolescent and adult mothers to have access to affordable and high quality daycare, especially in urban areas.

4) Create financial literacy programs and economic opportunities for adolescent girls

Given the widespread success of women’s micro-credit and their growing participation in the labor market, novel program interventions are being developed to enhance adolescent girls’ financial literacy and income-generating skills. In a series of projects lead by the Population Council in several countries in SSA, girls as young as 12 were given training in basic financial skills including savings accounts, interest rates, and budgets. Girls who participated in this program in Kenya and Uganda showed increased access to emergency resources, increased mobility, and greater independence (Austrian and Muthengi 2013). Qualitative work also showed that girls who participated in the program were less likely to experience sexual violence and harassment and were less likely to accept money from men in exchange for sexual favors (Austrian and Muthengi 2013). These promising pilot studies warrant additional research to examine the longer-term implications of improving young girls’ financial security on educational attainment, risk of acquiring HIV/STIs, teen pregnancy, and early marriage.

Other innovative programs focus on group-based micro-finance and training out of school adolescent girls in non-traditional skills (beyond basket weaving and tailoring) and engaging them in information technologies, computer science, and electronics. Such programs connect girls to the banking system and equip them with competitive skills appropriate for their rapidly changing economies. Such programs may not only reduce girls’ poverty, but there is some indication that girls who have access to micro-credit and savings programs are better able to refuse sex and insist on condom use with their partners (Erulkar and Chong 2005). In addition, enhancing women’s access to banking systems for both credit and savings and improving their ability to find skilled, well-paying jobs provides a strong incentive for parents to keep their adolescent daughters in school and for adolescent girls to seek academic achievement.
REFERENCES


