REDUCING STRUCTURAL BARRIERS TO SCHOOLING: A MEANS TO REDUCE HIV RISK?

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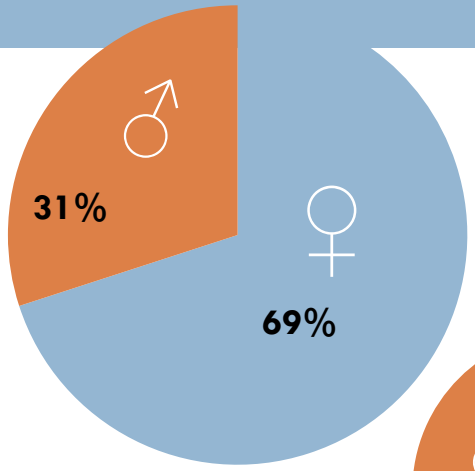
Overview

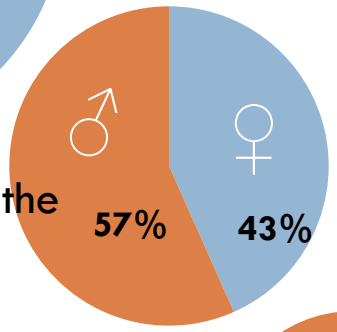
- Epidemiology of HIV in young people
- Evidence on schooling and HIV risk in youth
- Rationale behind cash transfers
- Review completed and current studies that provide cash to increase schooling or reduce financial barriers to schooling as a means to reduce HIV risk

In sub-Saharan Africa, girls make up nearly 70% of all young people living with HIV

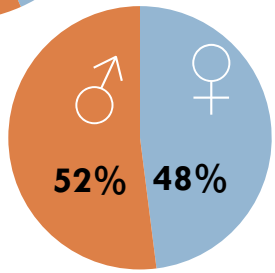
Source: UNAIDS, 2009 AIDS Epidemic Update



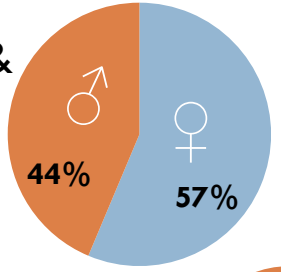
Sub-Saharan Africa
(4.0 Million)



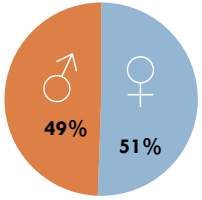
Latin America & the Caribbean
(300,000)



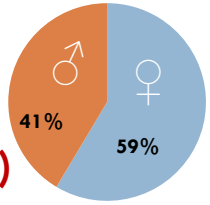
South Asia
(210,000)



East Asia & Pacific
(210,000)



Middle East & North Africa
(89,000)



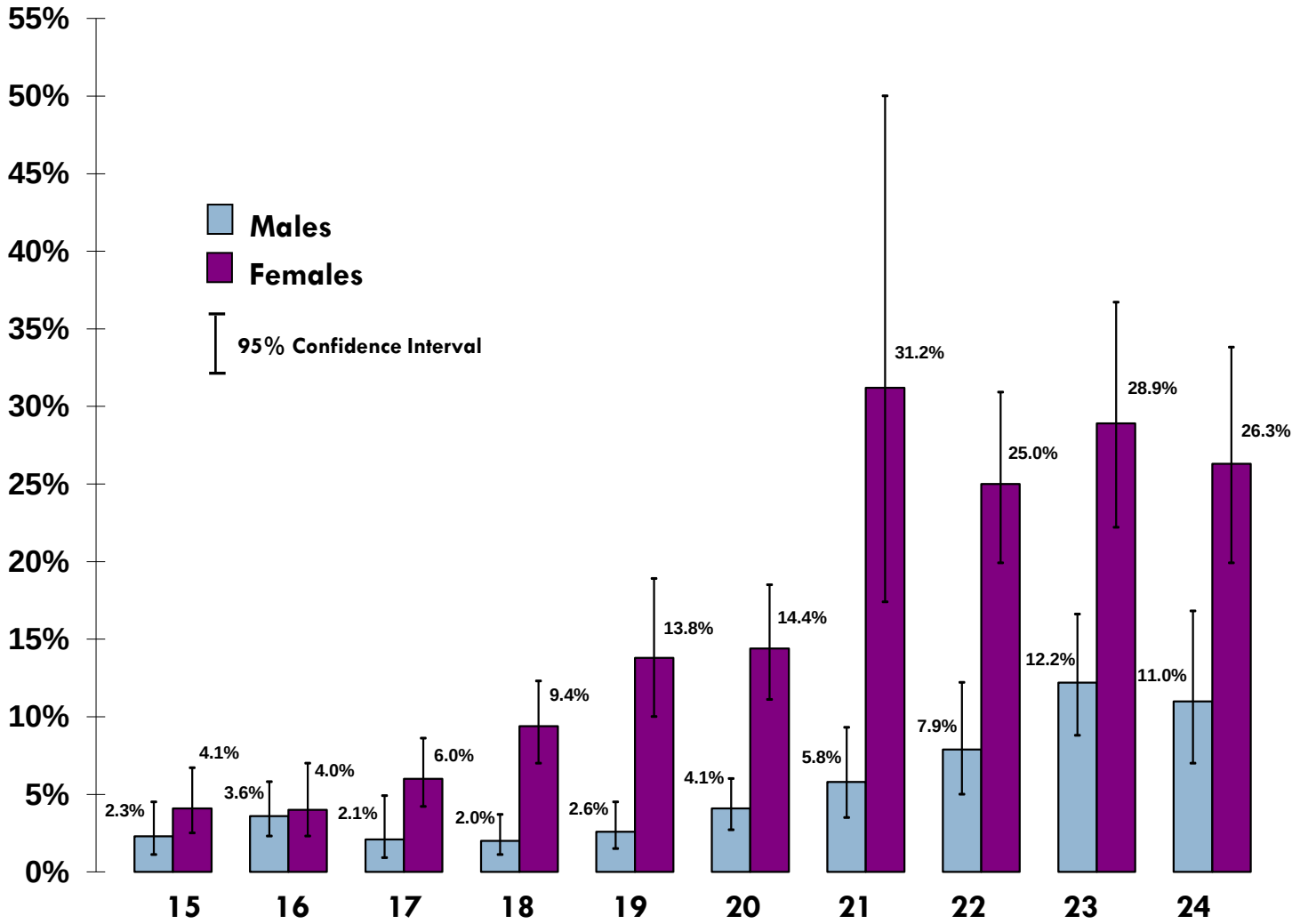
CEE/CIS
(70,000)

♀ **Female**

♂ **Male**

The size of the pie charts indicates the number of young people infected

HIV prevalence by age and gender among South Africans age 15-24



SOURCE: Pettifor A, et al. AIDS 2005, 19: 1525-1534.

High risk behaviors not observed

- We found that young South African women do not report engaging in “high risk” sexual activity, despite the incredibly high incidence and prevalence of HIV among young women.
- Structural produce strong and consistent associations with HIV risk in young women.
- Few interventions have addressed structural barriers or rigorously evaluated them.

Education and HIV: protection or risk?

- Data from early in the epidemic suggested that more education was associated with increased risk of HIV infection
- Two recent reviews on HIV and education indicate a protective association between higher education and HIV infection, particularly as epidemics mature (Hargreaves et al. AIDS 2008, Jukes et al. AIDS 2008)

Longitudinal studies support education as protective

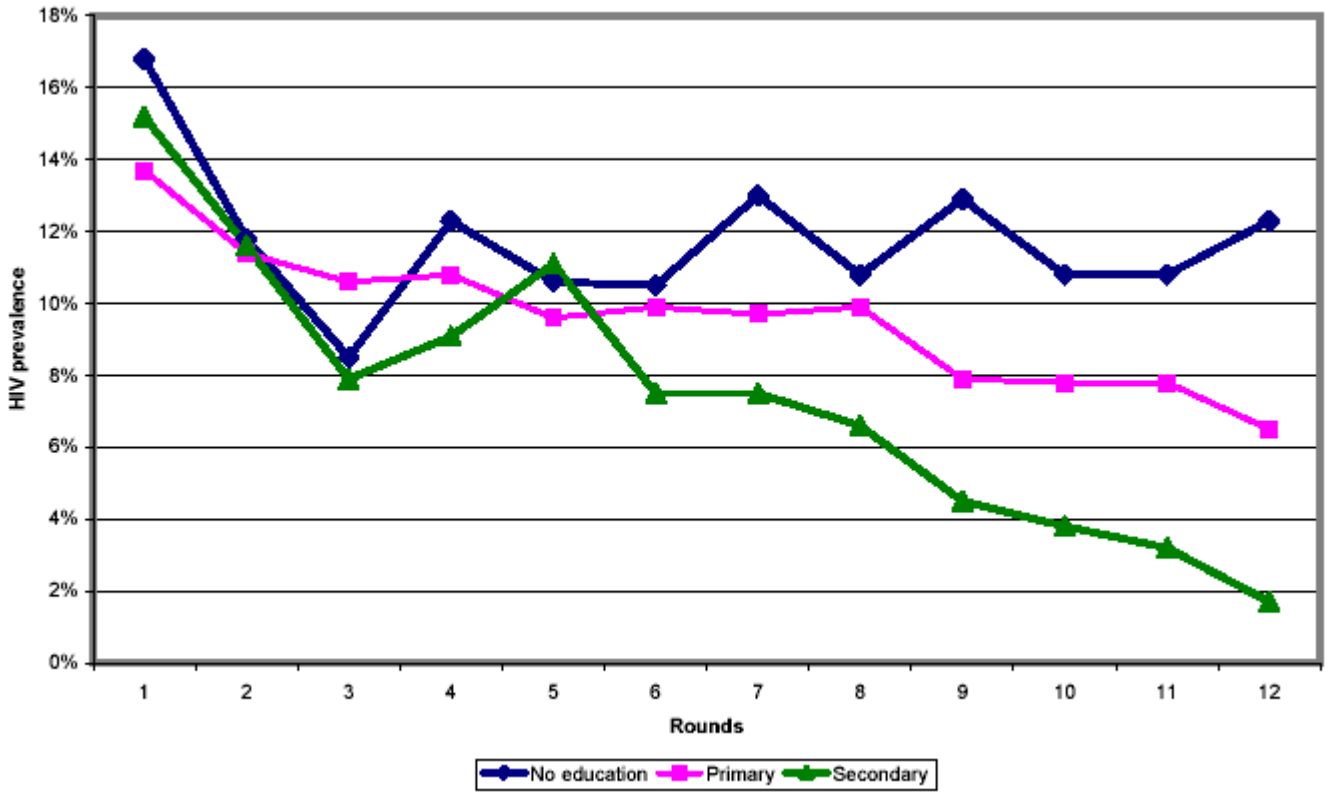
- In Zambia, young women with more education were less likely to be HIV infected than those with less education, and declines in infection rates from 1995-2003 were greatest in young women with the most education (Michelo C et al. *AIDS* 2006)

- In Uganda, HIV infection rates declined most rapidly over 10 years in young women with a secondary school education (de Walque D et al. *TMIH* 2005)

- In South Africa, participants were 7% less likely to become infected with HIV for each year of education they had completed (Barnighausen T, et al. *AIDS* 2007)

A Social Vaccine?

HIV prevalence by education category, Rural Uganda, 1990-2001. Individuals aged 18-29.



De Walque and J Whitworth, MRC Uganda (2002)

Education Associated with Reduced HIV risk in Young Women in SA

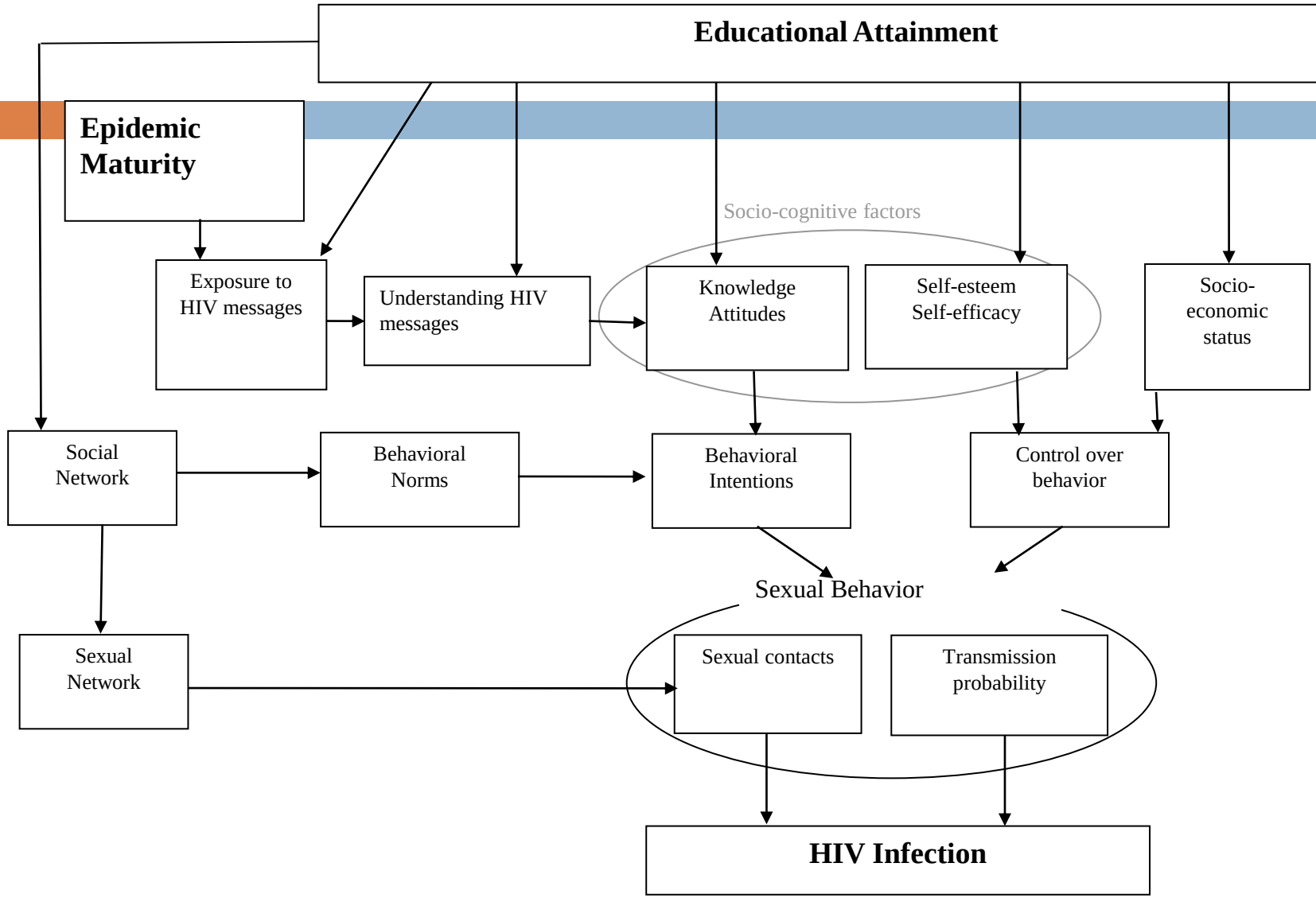
Table 1. Association between school attendance and HIV awareness, sexual behavior and HIV infection among 3682 females aged 15-19 from South Africa,

Variable	Currently Attending School		Dropped out or Never Attended		Adjusted for age, province and urban/rural
	N	%	N	%	aPOR (95% CI)
Total N	**2800**		**882**		
Knows ways to prevent HIV infection	2672	95.5	814	92.3	0.97 (0.94, 1.00)
Lack of Parental Communication	1448	52.0	503	56.5	1.02 (0.84, 1.23)
Not Had an HIV test	2484	89.2	650	74.4	0.85 (0.74, 0.96)
Ever had sex	1075	36.5	666	76.3	1.47 (1.32, 1.62)
Unwanted sex at debut*	77	7.1	37	6.2	0.93 (0.50, 1.73)
More than 1 partner during previous year*	161	17.0	94	11.6	0.83 (0.55, 1.26)
Early Debut*	159	13.2	115	16.3	2.40 (1.66, 3.48)
Ever pregnant	207	17.6	351	54.1	2.41 (1.70, 3.42)
Pregnant < 18	150	11.3	221	33.0	3.19 (2.06, 4.96)
Partner Age Difference*	105	8.6	121	15.8	1.68 (1.14, 2.49)
No condom use at least sex*	428	34.7	400	58.2	1.38 (1.10, 1.72)
HIV-positive	180	5.8	121	11.4	1.24 (0.83, 1.86)

Impact of education extends to almost every health and development outcome

- Better educated women are more likely than their less educated peers to delay coital debut, use condoms more often, delay marriage and childbearing, have fewer children and healthier babies, and enjoy better earning potential.

World Bank. *Education and HIV/AIDS a window of hope.* Washington D.C.: World Bank; 2002.



Jukes M et al. AIDS 2008

Barriers to Education

- Costs associated with school are a major barrier
- In South Africa, 65% of young people who were not in school indicated that they did not have enough money to continue their education
  - Hidden costs: uniforms, books/supplies, transport, food, etc.
- Young women are often taken out of school to find employment to support the family or to care for children or sick family members.
- Family commitments cited as barrier by 9% of non-school attending South African females, as opposed to <1% of non-attending males

Samson M et al. The social and economic impact of South Africa's social security system. 2004

Cash Transfers to keep young women in school

- In Mexico, the Oportundides program, which provides conditional cash transfers to poor families to send their children to school, has found that the program increases school enrollment, particularly for girls (Schultz T IFPRI 2000)
- Children in South African households that receive government social welfare grants are more likely to attend school and the observed effects are greater for young women than young men (Samson M et al. 2004)
  - the greatest benefit of social welfare grants on educational outcomes appears to be for young women from the poorest households

Why target girls?

- HIV incidence highest in young women
- Barriers to school attendance and drop out appear greater for girls than boys
- Observed effects on education and HIV are greater for girls than boys
- Programs that have reduced barriers to education have had greater effects for girls than boys

Building evidence on CTs

Study Design			Measures/Outcomes			
Study	Focus	Conditional vs. Unconditional	HIV	STIs	Sexual Behavior/ Intentions	Other*
SIHR (Malawi)	**A**	**C, U**	**+**	**+**	**+**	**+**
HIV Education (Kenya)	**S**	**U**			**+**	**+**
Education for Orphan Girls (Zimbabwe)	**S, N**	**U**	**?**	**?**	**+**	**+**
Swa Koteka (South Africa)	**A**	**C**	**?**	**?**	**?**	**?**
CAPRISA 007 (South Africa)	**HP, A**	**C**	**?**		**?**	**?**

Transfer Type
C Conditional **U Unconditional**
HP Health Promotion **S** School costs
A School Attendance/Performance **N** Nutrition

Outcome
+ positive impact
-- negative impact
? Impact unknown

* Other measures/outcomes include: school attendance, enrollment, or matriculation, and contributing to educational savings accounts

Current Evidence: reducing economic barriers to schooling

- **Education and HIV/AIDS Prevention Study – Kenya**
  - PI: Esther Duflo (MIT)
  - Overview: RCT. Reduced the cost of education by paying for school uniforms
  - Results: Lower rates of dropout (15% reduction), teen marriage (12% reduction), and childbearing (10% reduction) after 2 years among girls who received free uniforms. (Duflo E, Dupas P, Kremer M. et al. Education and HIV/AIDS Prevention: Evidence from a Randomized Evaluation in Western Kenya. Policy Research Working Paper Series 4024. 2006. The World Bank.)
- **Supporting Adolescent Orphan Girls to Stay in School as HIV Risk Prevention – Zimbabwe**
  - PI: Denise Hallfors (PIRE)
  - Overview: RCT,105 OVC ages 12-14. Feeding program, free uniforms, fees, school supplies, and helpers to monitor and encourage attendance
  - Results: Those in the intervention group were less likely to drop out of school (4% vs 12%, $p<0.05$) and less likely to have initiated sexual debut (19% vs. 33%, $p<0.05$) (Cho H, Hallfors D, et al. Keeping Adolescent Orphans in School to Prevent Human Immunodeficiency Virus Infection: Evidence From a Randomized Controlled Trial in Kenya. J Ad Health. 2011)

Current Evidence: CCT

- **Progressa/Oportunidades – Mexico**
  - PI: Omar Galárraga (Brown University) and Paul Gertler (UC Berkely)
  - Overview: Cash transfers to poor families with children (age 12-24) conditional on school attendance and utilization of free preventative health care services; non-conditional transfers to support nutrition; education transfers increase with grade level (slightly higher transfers for girls than boys)
  - Results: 40% reduction in alcohol use among females (13% in intervention vs. 22% in controls); 46% reduction in smoking in males (16% in intervention vs. 30% in controls); no impact on sexual initiation or condom use among males or females (Galárraga O, Gertler PJ. Conditional Cash & Adolescent Risk Behaviors: Evidence from Urban Mexico. American Economic Association.www.aeaweb.org/aea/conference/program/retrieve.php?pdfid=261].

Current Evidence

- **Schooling Income and HIV Risk (SIHR) – Malawi**
  - PI: Berk Ozler (World Bank), Sarah Baird (GWU), and Craig McIntosh (UCSD)
  - Overview: 176 enumeration areas in Zomba (3796 girls ages 13-22 years, not married). 3 "arms": conditional cash transfers, unconditional transfers, control. Amount to parent varied from USD 4-10 per month. Amount to girl varied from USD 1-5 per month.
  - Results: Higher rates of school enrollment after 1 year (95% in intervention vs. 89% in control); lower rates of HIV prevalence after 18 months (1.2% in intervention vs. 3% in control); lower rates of HSV-2 infection after 18 months (0.7% in intervention vs. 3% in control); younger sexual partners (2 year difference in intervention vs. 3 year in control)
  - No difference between conditional and unconditional arm. Change in partnership characteristics appeared to drive reduction in risk.

The World Bank. A cash transfer program reduces HIV infections among adolescent girls. The World Bank Development Research Group. [Accessed online June 19, 2011: at http://siteresources.worldbank.org/DEC/Resources/HIVExeSummary(Malawi).pdf].

Ongoing Studies

- **HPTN 068, Swa Koteka – South Africa**
  - PI: Audrey Pettifor (UNC), Catherine MacPhail (WRHI), Kathleen Kahn (AHPU)
  - Overview: RCT to examine effect of cash transfer conditional on school attendance. Young women ages13-20 years old (grades 9-11) and their parent guardian each receive a monthly payment. Primary endpoint is HIV and HSV-2 incidence in young women.

- **Reducing HIV in Adolescents (CAPRISA 005) – South Africa**
  - PI: Quarraisha Abdool Karim (CAPRISA)
  - Overview: RCT. Cash transfers to boys and girls, school based. Incentives for school performance, HIV testing, etc. Primary endpoint HIV incidence.

Summary

- Young women are at high risk of HIV infection in sub-Saharan Africa
- Observational data suggests that schooling is protective with regard to HIV
- Reducing economic barriers to schooling and providing cash transfer conditioned on schooling increase attendance and appear to reduce HIV risk
- 2 RCTs with HIV incidence endpoints in youth are currently underway in South Africa

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