Unpacking the Results of HPTN 068: A randomized controlled cash transfer trial to prevent HIV infection in young women in South Africa

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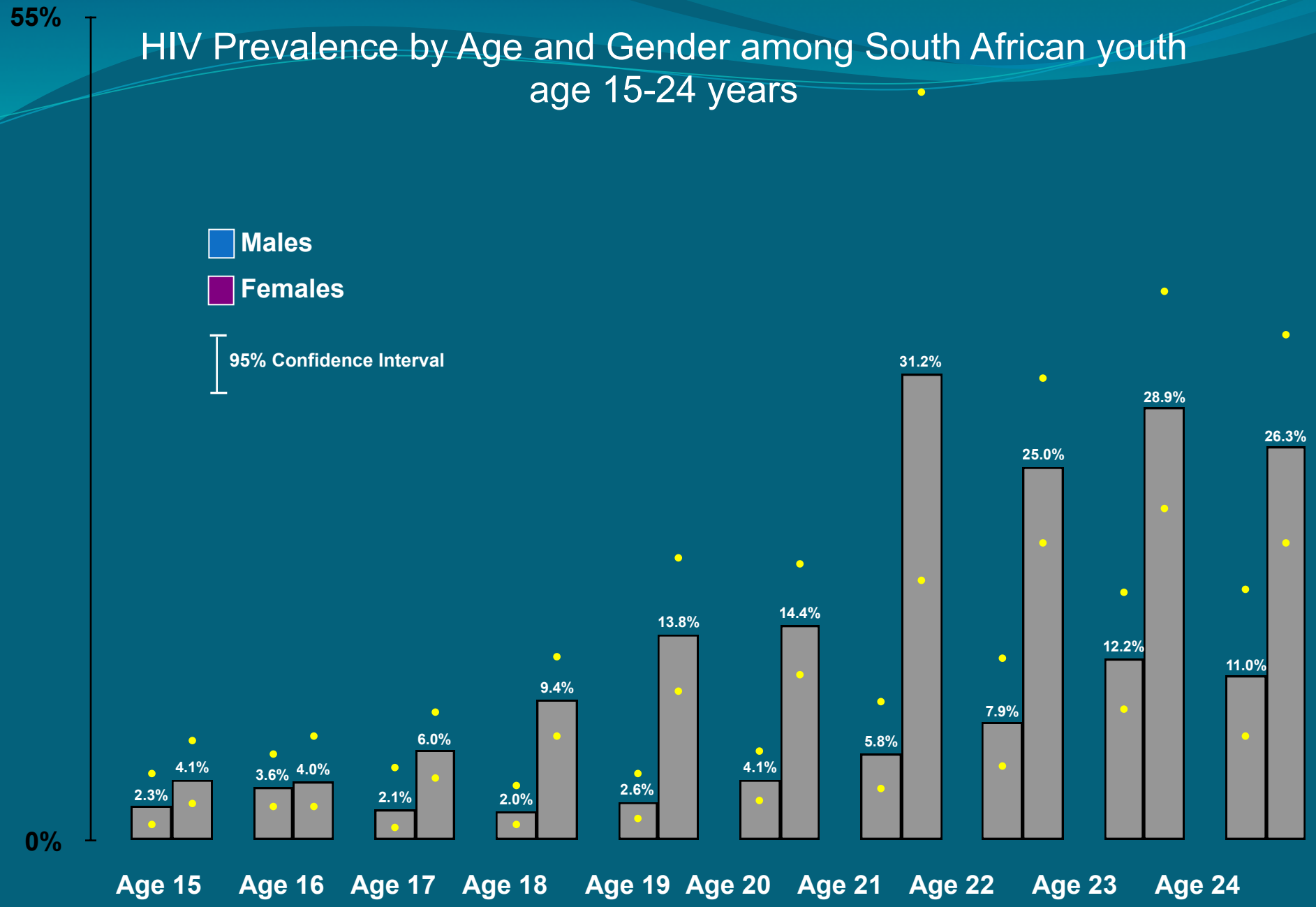
HIV Prevalence by Age and Gender among South African youth age 15-24 years



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

Structural Drivers of HIV risk

* Poverty
* Education
* Gender Power
* Inequality

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Keep them in school: the importance of education as a protective factor against HIV infection among young South African women

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Education is protective for HIV

* Among young women with one lifetime partner, those who had not completed high school were almost 4 times more likely to be HIV infected compared to those that had completed HS (AOR 3.75 95% CI 1.34–10.46) (Pettifor A et al. IJE 2008)
* 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)

Barriers to Education

* Poverty pushes many young people out of school- in particular young women

* 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 sick family members.
* Young people make up 40% of the unemployed globally
  * Young women in low and middle income countries find it more difficult to find work

Samson 2004

Education: Baird et al (2013) review

Systematic review of 35 evaluations:

36% greater enrollment
in households with ANY cash transfers

23% greater enrollment in UCT
(unconditional cash transfer)

41% greater enrollment in CCT
(conditional cash transfer) households

Impact on enrollment greater at secondary (31%)
than primary (4%) level

42% greater attendance in UCT and 65% greater attendance in CCT households

Effects on **attendance higher in girls** than boys

Greater transfers (relative to per capita income) **produce greater effect sizes**
(Saavedra and Garcia, 2012)

Cash to prevent HIV Infection

* 2 main approaches:
  * Upstream-- Cash for poverty alleviation which aims to reduce HIV risk
  * Downstream-- Cash as an incentive for behavior change (ie, money to test for HIV, to take your ART, male circumcision)
* > 16 studies that have been completed or are underway examining the use of cash/incentives to reduce HIV risk in adults and young women
* Will both approaches work the same in different populations?
* What is the implication for scale up?

Pettifor A, et al. AIDS Behav. 2012 Oct;16(7):1729-38.

Cash can reduce HIV risk- upstream

* Recently completed World Bank RCT examining conditional and unconditional transfers in young women in Zomba, Malawi
  * 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
  * At 18 months, girls getting cash payments were less likely to be HIV infected compared to girls not getting the cash payments (OR 0.36 95% CI0.14-0.91). They were also less likely to report sex in the past week and to have a partner >25 years of age.

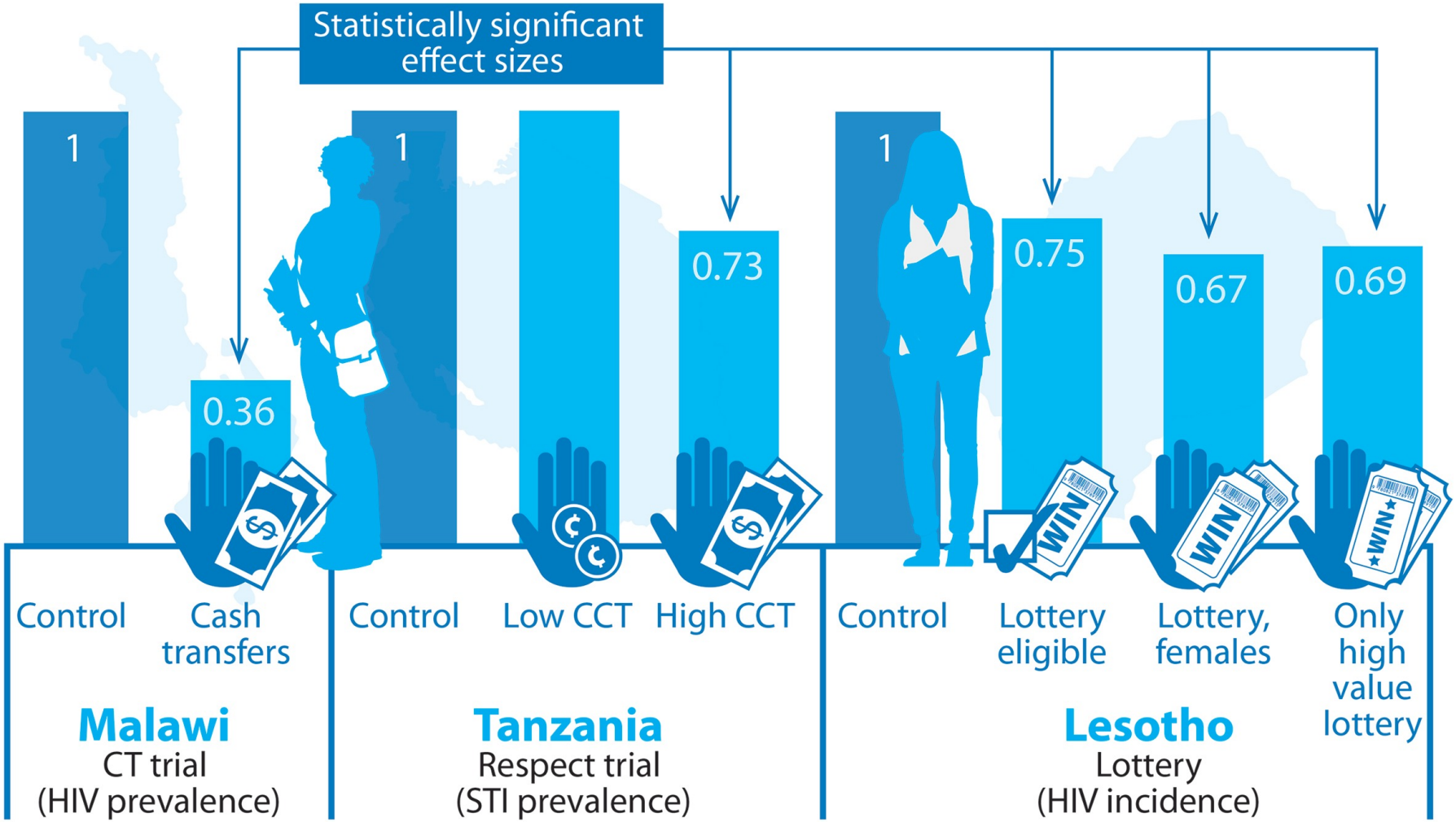
Baird S, et al. Lancet. 2012 Apr 7;379(9823):1320-9

Cash can reduce HIV risk-downstream

* World Bank lottery study in Lesotho
* Men and women randomized to control or two different lottery arms (high or low) conditioned on negative STI tests every 4 months
* After 2 years of intervention, HIV incidence was significantly lower among study participants eligible for the lotteries (OR 0.75, 95% CI 0.58 - 0.97), especially among women (OR 0.67, 95% CI 0.52 - 0.86), and in the group eligible for the high prize lotteries (1000 Rands) (OR 0.69, 95% CI 0.50 - 0.98).

M. Björkman-Nyqvist, D. de Walque IAS 2013

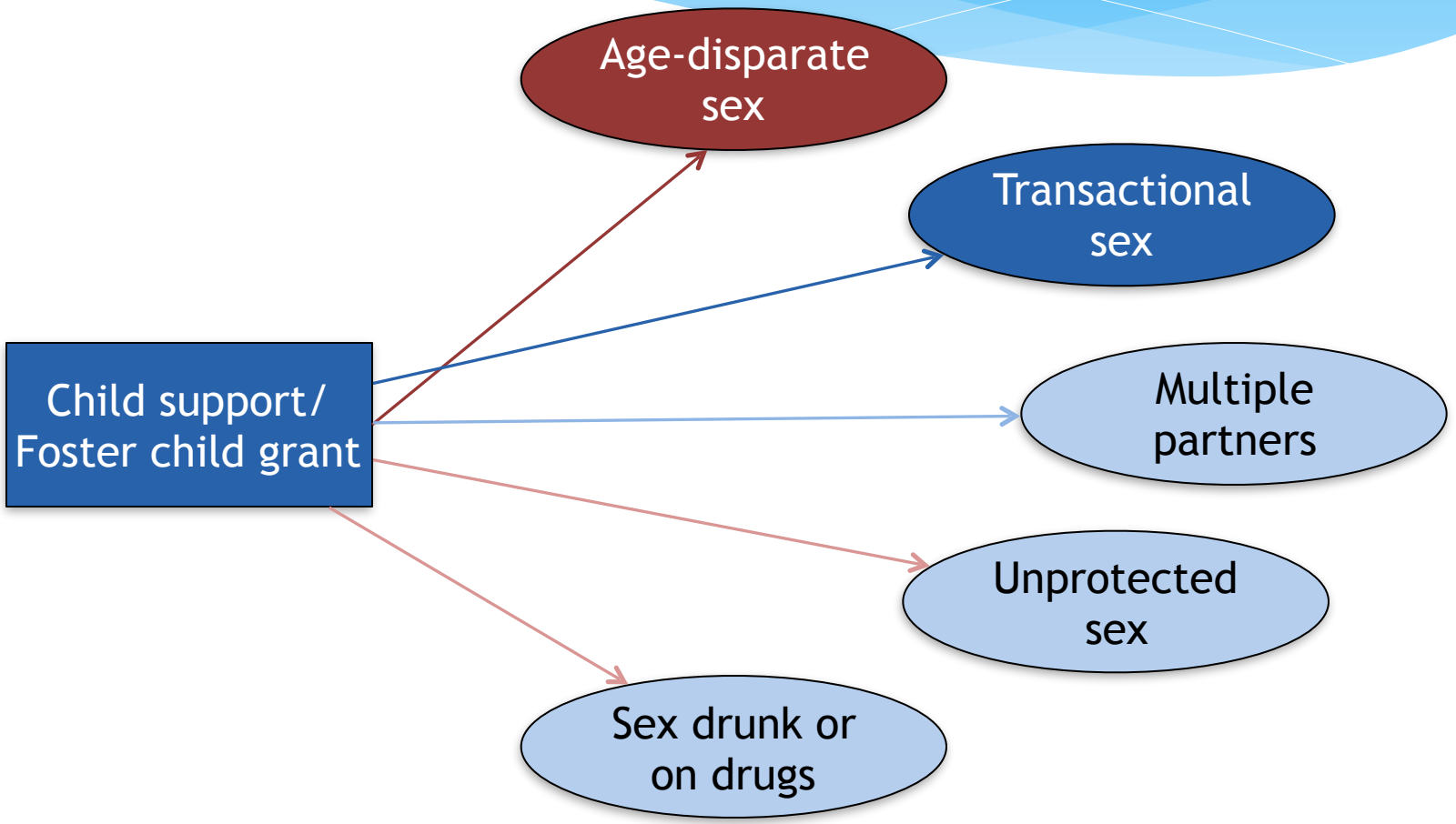
Cash transfer and HIV infection—**effect sizes**



WORLD BANK GROUP

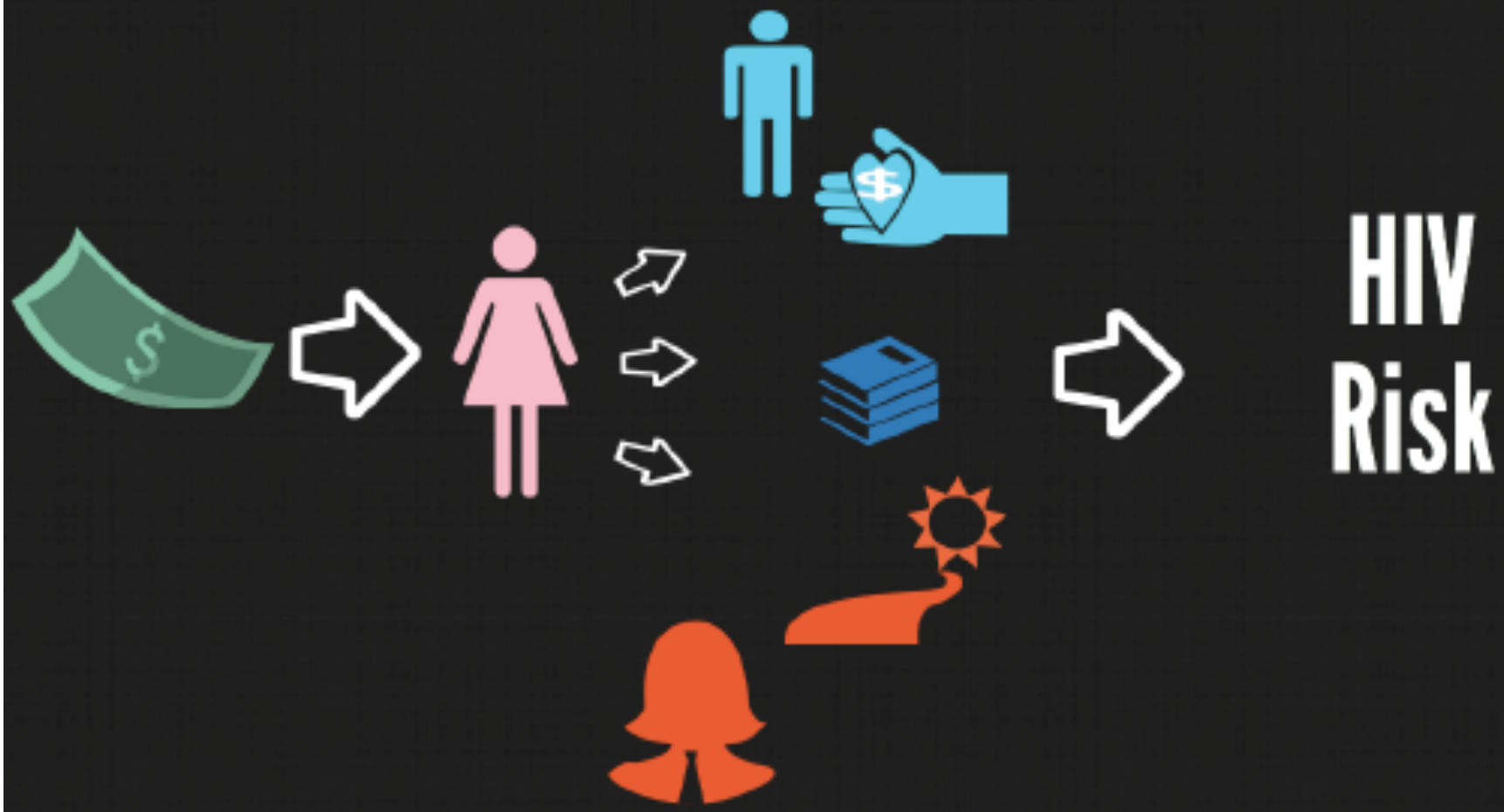
Child-focused state cash transfers and adolescent risk of HIV infection in South Africa: a propensity-score-matched case-control study

Lucie Cluver, Mark Boyes, Mark Orkin, Marija Pantelic, Thembela Molwena, Lorraine Sherr

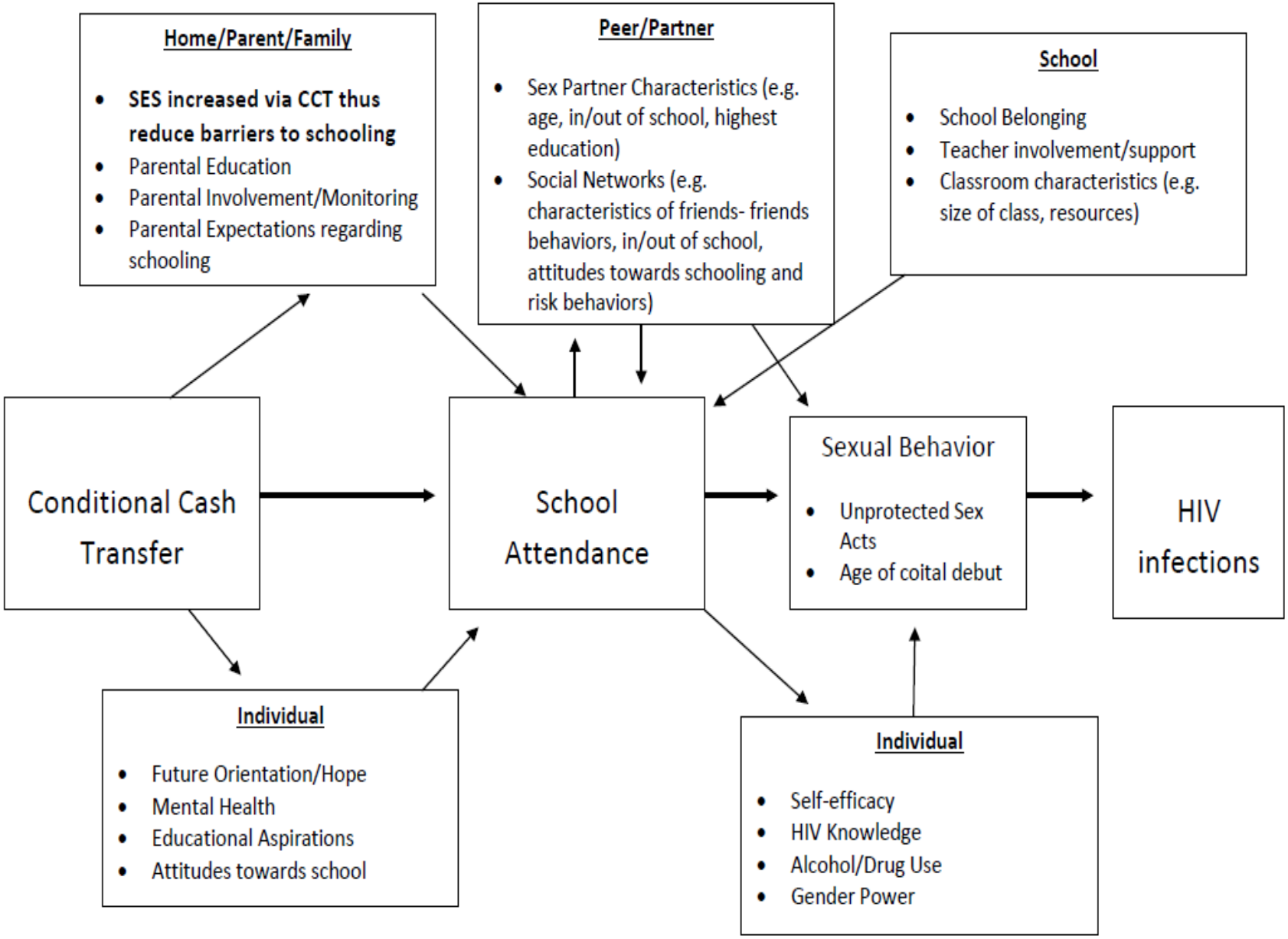


Lancet 2013

Cash Transfers



Appendix B. HPTN 068 Explanatory Model Sept 29 2010



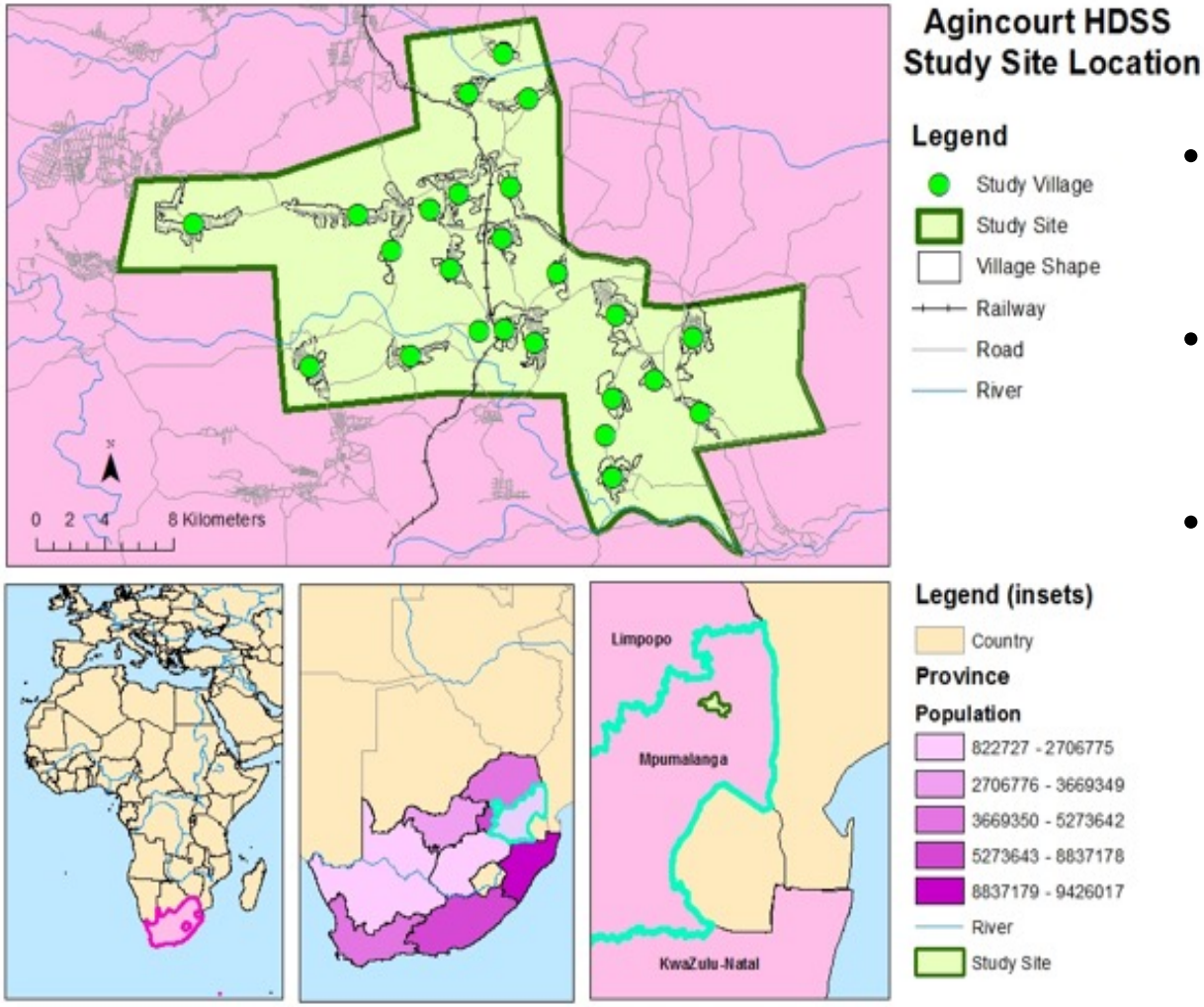
HPTN 068: Study Design

- Phase III individually randomized controlled trial.
- Primary endpoint: HIV incidence.
- Young women and parent/guardian seen at baseline and annually for up to 3 follow-up visits between March 2012-March 2015.
- Intervention: Cash transfer provided to young women and parent/guardian conditional on ≥80% school attendance monthly.
  - Attendance data collected from schools monthly
  - R100 (~USD 10) to the girl
  - R200 (~USD 20) to the parent/guardian

Methods: Study Visits

- HIV and HSV-2 were assessed at each visit.
  - HIV: Two rapid tests confirmed with Western Blot and 100% QC at the HPTN Laboratory Center
- Audio-Computer Assisted Self-Interview (ACASI) at each visit to collect:
  - e.g. sexual behavior, schooling, intimate partner violence, mental health, alcohol and drug use
- Parent/guardian interviewed at each visit to assess socio-economic status.
- Large qualitative component to study.

Study Site: Agincourt Health and Socio-Demographic Surveillance Site (AHDSS)



- Ehlanzeni District, Mpumalanga Province
- 28 villages, 115,000 people, 420 km^2
- HIV Prevalence 46% and 45% among women and men 35-39 years.

Kahn K, et al. IJE 2012.; Gomez-Olive X, et al AIDS Care 2013.

Design: Study Population

Eligibility Criteria:

- Female
- Enrolled in grades 8, 9, 10 or 11 in participating high schools
- Age 13-20 years
- Not married or pregnant by self-report
- Parent/guardian living in household
- Able to complete a computer survey on her own
- Residing in study area

Results: Baseline

- 2,533 young women were enrolled March 2011- December 2012.
- 2,448 were HIV uninfected at enrollment (81 HIV+, 4 unknown status).

Baseline	
Age (Median, IQR)	15 (14-17)
Ever sex	26.6%
HIV	3.2%
HSV-2	4.4%
Ever Pregnant	8.9%
Orphan	28.6%
Food insecurity	34.3%
HH receives CSG	79.0%

Results: Study Conduct

- Retention was 91% over the study period.
  - 87.5% in the control arm and 95.1% in the intervention arm
- 99.7% of intervention participants eligible for payments were paid.
- Study adhered to clinical trial standards.
  - DSMB
  - Quarterly external clinical trial monitoring

Results: Social Harms

- There were no serious social harms reported by participants.
  - 16 reports (9 intervention, 7 control) during the trial.
  - 13/16 (81%) were minor teasing/jealousy related to being in the study.

Results: HIV incidence

- There was no difference in HIV incidence between those that received the cash transfer and those that did not.
  - Hazard Ratio (HR) 1.17 (95% CI 0.80-1.72, p=0.42).
- 107 incident HIV infections were identified during the study.
  - 59 in the intervention arm and 48 in the control arm
- HIV incidence was 1.8% during the study.

Results: School Attendance

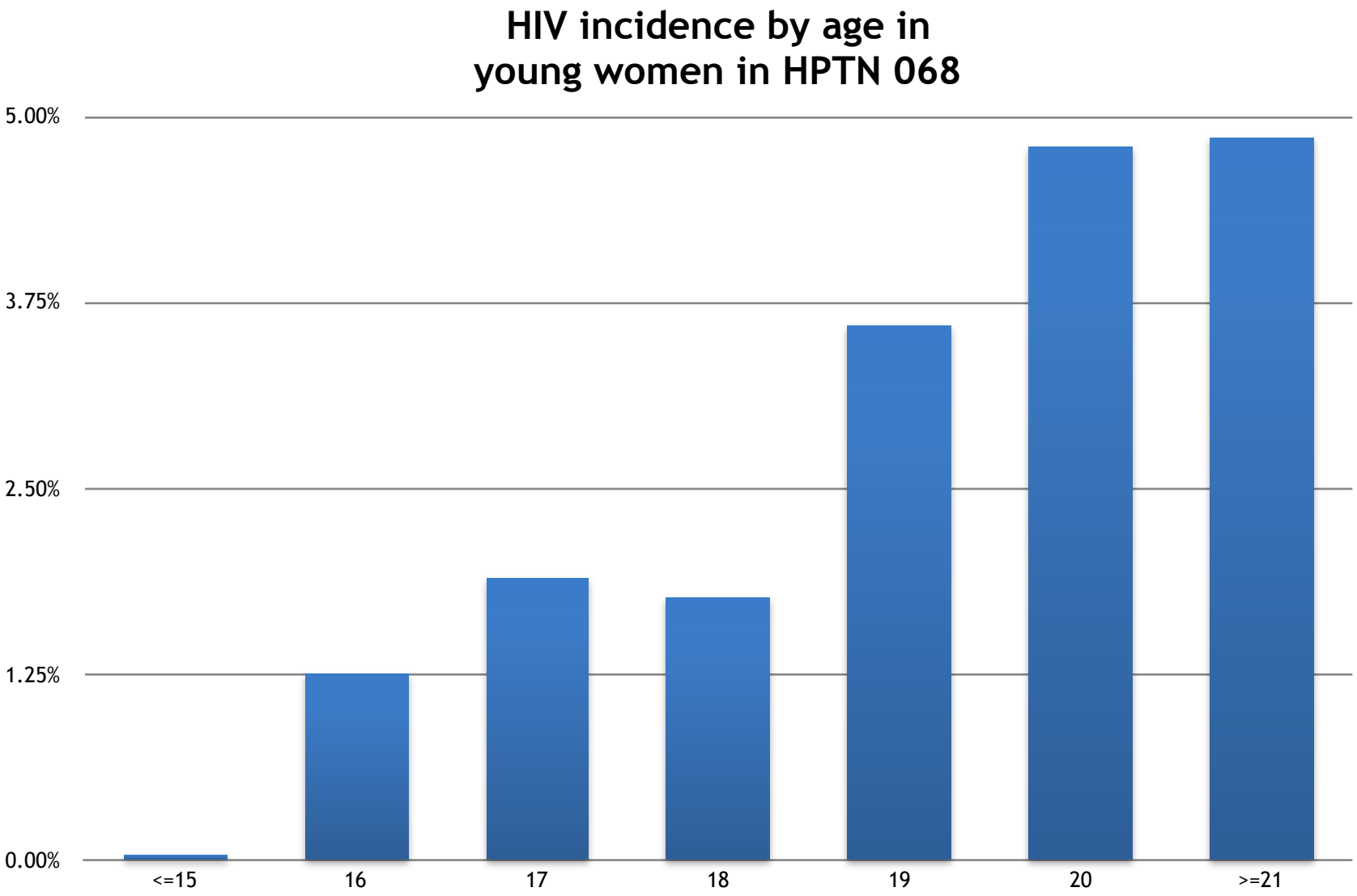
- There was no significant difference in school attendance or permanent drop out by study arm.
  - Attendance: 95.0% in the intervention arm and 95.3% in the control arm, mean difference -0.44 (95% CI -1.44 – 0.56), p=0.39.
  - School drop out: 2.7% in the intervention arm and 2.9% in the control arm, RR 0.90 (95% CI 0.67 - 1.24), p=0.53

Results: HSV-2

- There was no difference between arms in HSV-2 incidence, RR 0.92 (0.71- 1.18) (p=0.492)

Results: Sexual Behavior

Endpoint	Control	Intervention	RR	CI	p-value
Had any sex partner in past 12 months	35.2%	32.2%	0.90	0.83 - 0.99	0.023
Any unprotected sex (past 3 mo)	10.2%	8.1%	0.81	0.67 – 1.0	0.05
IPV at any visit	31.2%	22.7%	0.72	0.64 - 0.80	<0.0001
Coital debut	17.6%/yr	15.3%/yr	0.92	0.78 - 1.08	0.30
Partner age diff >5yr	19.1%	16.0%	0.90	0.72 - 1.12	0.34
Transactional sex	10.5%	9.7%	0.95	0.78 - 1.15	0.57
Any pregnancy during the study	13.6%	13.0%	0.94	0.76 – 1.17	0.58

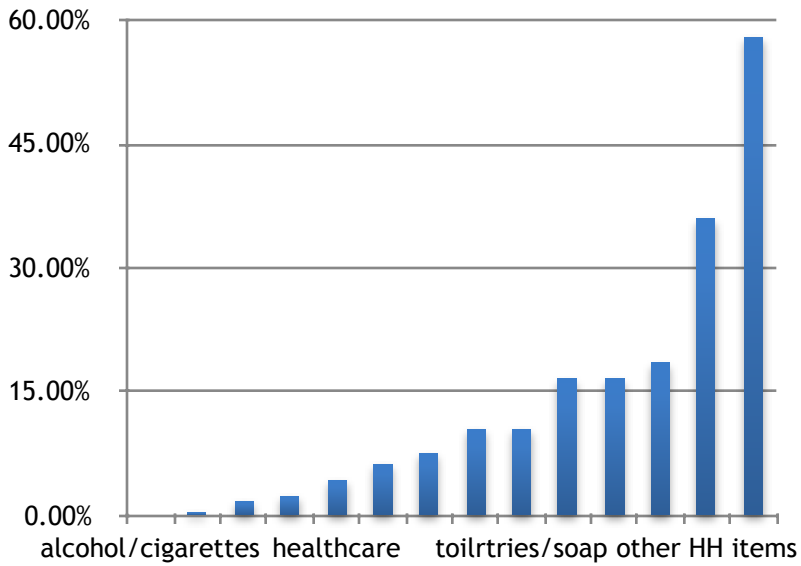

HIV incidence by age in
young women in HPTN 068
5.00%
3.75%
2.50%
1.25%
0.00%
<=15
16
17
18
19
20
>=21

Results: Schooling was protective

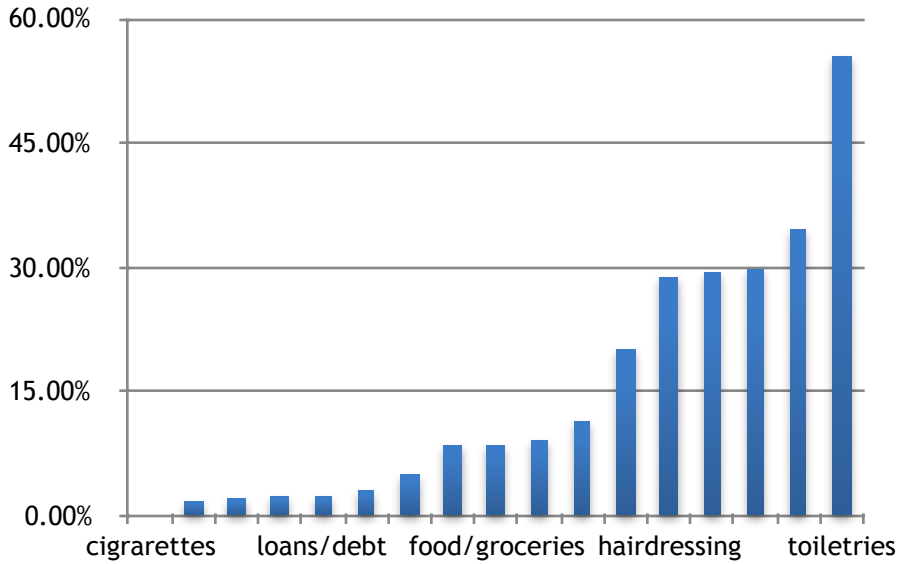
- School enrollment and attendance were protective for HIV irrespective of study arm.
  - Risk of HIV infection comparing school drop out to non drop out, HR 3.21 (95% CI 1.81, 5.71), p<.0001
  - Risk of HIV infection comparing <80% attendance to ≥80% school attendance, HR 3.05 (95% CI 1.81,5.13), p<0.0001

How did they spend the $?

Household expenditures



YW expenditures



Discussion

- A monthly cash transfer conditional on school attendance did not reduce new HIV infections.
- Young women receiving the CCT reported fewer sex partners, less unprotected sex and experienced less IPV.
- School attendance was high in both arms.
- Staying in school and greater attendance significantly reduced HIV risk for young women.
- HIV incidence was 1.8% and risk behaviors were relatively low.

Unpacking results

- Why such high school enrollment?
  - High social protection coverage
  - Fee exempt schools
  - School feeding schemes
  - Qualitative data suggests study and peer effects on increasing school attendance
- Data from SA DBE from 2012/2012 shows enrollment rates in MP province of 85% for 16-18 year olds.

Unpacking results

- There was no impact on HIV, HSV-2 or pregnancy…BUT there was a reduction in IPV, having a sex partner and unprotected sex- what does this mean?
  - Trying to understand the IPV results…how did the cash reduce IPV? Self-esteem, hope for future, cash allowed girls to not choose certain partners?

Implications

- Schooling is protective for HIV
  - Low risk behavior overall
  - Those that dropped out of school, while a small group had higher incidence
  - Focus for prevention should be more on 18-24 and out of school youth
- In places with low school enrollment, cash likely can help increase attendance (may have played a role in our site for sure)

Cash plus?

* Pilot testing a 4 session intervention among CCT girls who exited the study in 2013 (June/July 2015)
  * Goal setting, self-esteem
  * SRH/HIV skills and education
  * GBV knowledge and prevention
  * Financial education
* Some take aways to date: 4 sessions not enough, would like more, enjoyed mentoring/social support of group
* Baseline and Endline (Oct/Nov 2015) survey plus 20 IDIs

Next Steps

* No magic bullet for prevention
* Think hard about the purpose of the cash- what are we trying to achieve with the cash?
* Context, context, context
* Targeting- who gets money/incentives? Who will benefit most?
* Focus on out of school & 18-24 year olds
* How long do you give the cash for?
  * Transition young women through a risky period?
* How to package cash with care?
* How does cash fit into combination prevention?
* Other forms of economic strengthening?

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