Short-term Impacts of an Unconditional Cash Transfer Program on Child Schooling: Experimental Evidence from Malawi

Kelly Kilburn, Sudhanshu Handa, Gustavo Angeles, Maxton Tsoka, Peter Mvula

University of North Carolina-Chapel Hill

kkilburn@unc.edu

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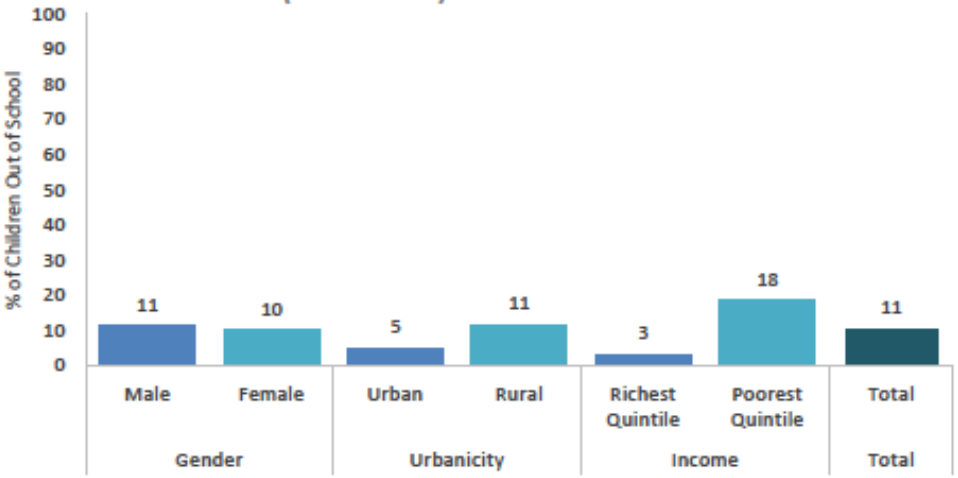
Schooling in Malawi

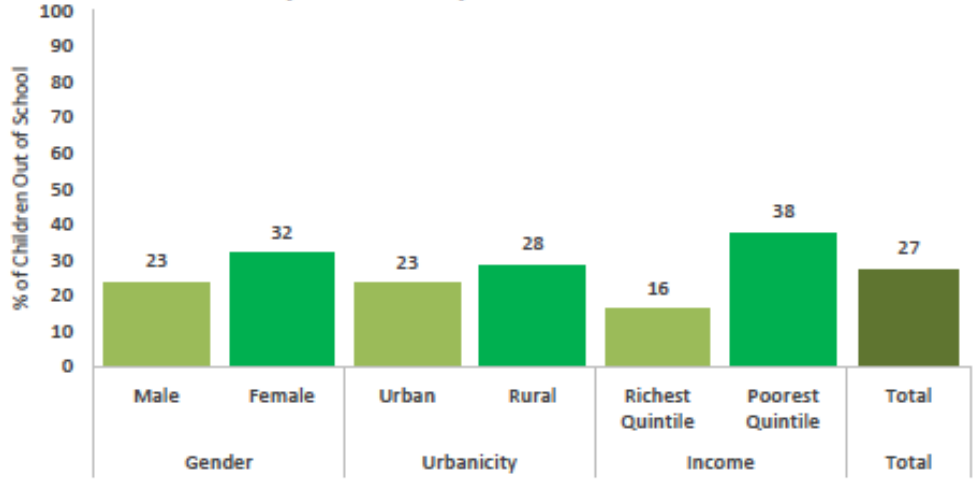
- Some of the lowest schooling outcomes in sub-Saharan Africa
- The biggest disparity in schooling rates are between the poorest and richest children

FIG 4. PERCENTAGE OF CHILDREN OF PRIMARY SCHOOL AGE (AGES 6-13) OUT OF SCHOOL



Data source: EPDC extraction of DHS dataset 2010

FIG 5. PERCENTAGE OF CHILDREN OF SECONDARY SCHOOL AGE (AGES 14-17) OUT OF SCHOOL

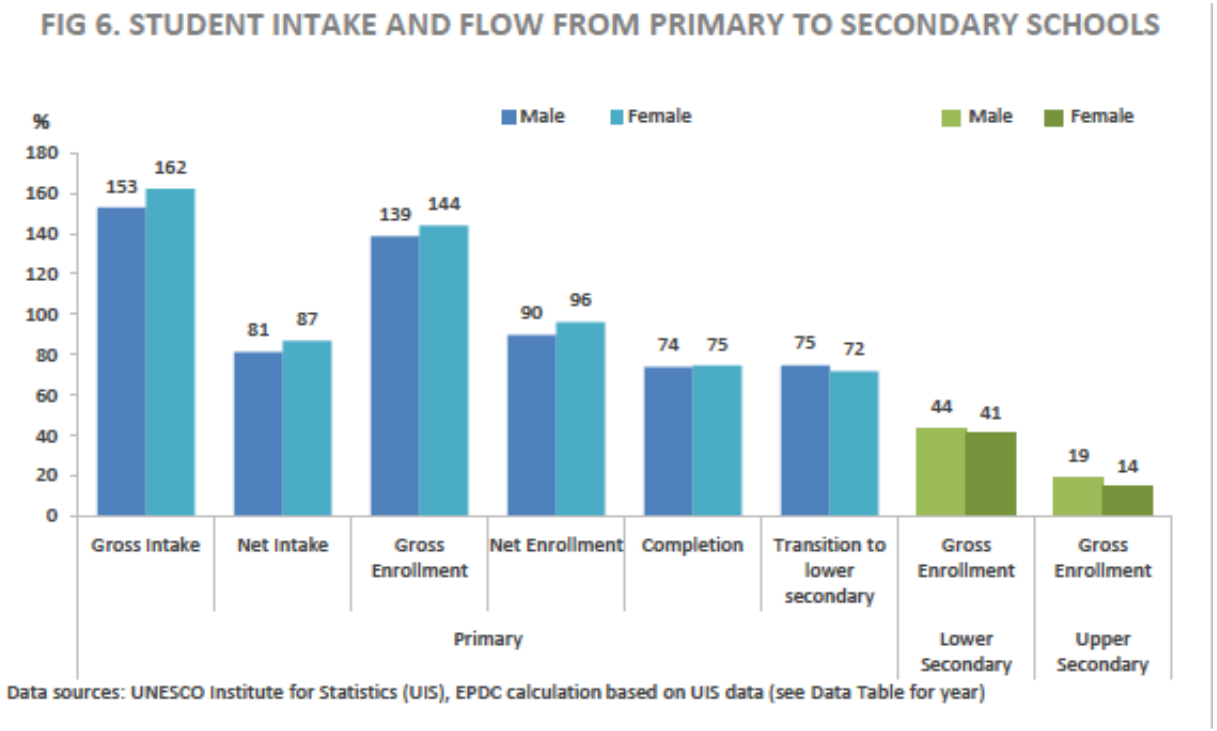


Data source: EPDC extraction of DHS dataset 2010

Source (Figures 4 and 5) Education Policy Data Center, 2014

Schooling in Malawi

Most children do not move in a linear progression from primary to secondary school—over 80% of those enrolled are in primary



Source (Figure 6): Education Policy Data Center, 2014

Barriers to Education

- Poverty is the primary barrier for children in Malawi, limiting both supply and demand.
- Increasing household demand for education is unlikely to be met without reducing cost barriers (both direct and indirect) for families.

Cost Barriers:

- Primary school: Malawi provides free primary education, but other obligatory expenses like uniforms and school supplies can make primary school too expensive for some families.
- Secondary school: Cost prohibitive for poor families because of added costs of tuition and occasionally travel or board since schools tend to be far from rural areas.

Cash transfers and Schooling

Evidence has demonstrated the ability of both conditional and unconditional programs to improve schooling outcomes in the developing world (Reviews: Fiszbein & Schady, 2009; Baird et al., 2013b).

However, little is known about the **mechanisms** through which unconditional programs like Malawi's work to impact child schooling.

Contribution:

- Our study helps address the gap in knowledge by investigating how an unconditional cash transfer program given to the household impacts child schooling outcomes

Findings:

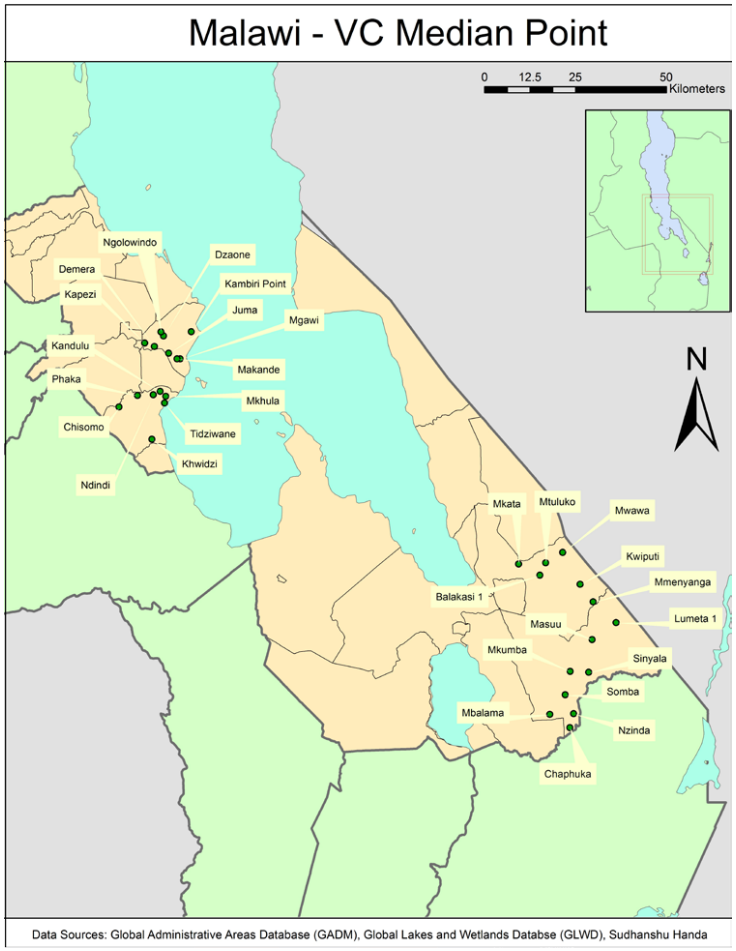
- Strong impacts on enrollment and dropout after a year.
- The key mechanism for this effect is through an increase spending on child education, particularly uniforms and school supplies.

Malawi Social Cash Transfer Program

- Unconditional
- Recipients are targeted and must meet criteria:
  - **Ultra-poor**—unable to take care of members' most basic needs
  - **Labor constrained households**—have a large dependency ratio
- SCTP eligible individuals live on $0.30 on average per day before the program
- Average transfer is around $8 per month
- This comprises around 20 percent of pre-program consumption

Experimental Study Design

- Two districts chosen for expansion: Salima and Mangochi
- Randomization in 2 Levels: Traditional Authority (4 TAs) and Village Clusters (29 VCs)
- Random assignment to treatment arms by VCs
  - 14 VCs-T and 15 VCs-C
  - 3,351 Households at Baseline
  - 3,369 Households at Follow-up (<5% attrition)



Structure and level of transfers

Transfer Amounts by Household Size and Number of School-age Children

Household Size	Monthly Cash Benefit		Top–Ups*	
			Residents age < 21	Residents age 21-30
1 Member	MWK 1,000	~USD $3	No. of Children x MWK 300	No. of Children x MWK 600
2 Members	MWK 1,500			
3 Members	MWK 1,950			
≥ 4 Members	MWK 2,400	~USD $7		

*Top-ups are meant to assist with expenses for schooling but are not conditional on children attending school

Data and Measures

Sample:

Unit of analysis for this study is the individual child. We include all children of primary and secondary school age (between 6 and 17) with enrollment data from the panel of 3,365 households (Observations=12,771)

Measures:

- School enrollment
- Dropout
- Temporary withdrawal

Empirical Approach

Differences in Differences (DD)

$$Y_{it} = \beta(T_i P_t) + \lambda T_i + \delta P_t + \phi X_{it} + e_{it}$$

Y_{it} = schooling outcome
$T_i P_t$ = DD impact
T_i= dummy for treatment
P_t= dummy for post period
X_{it}=set of individual and household baseline controls

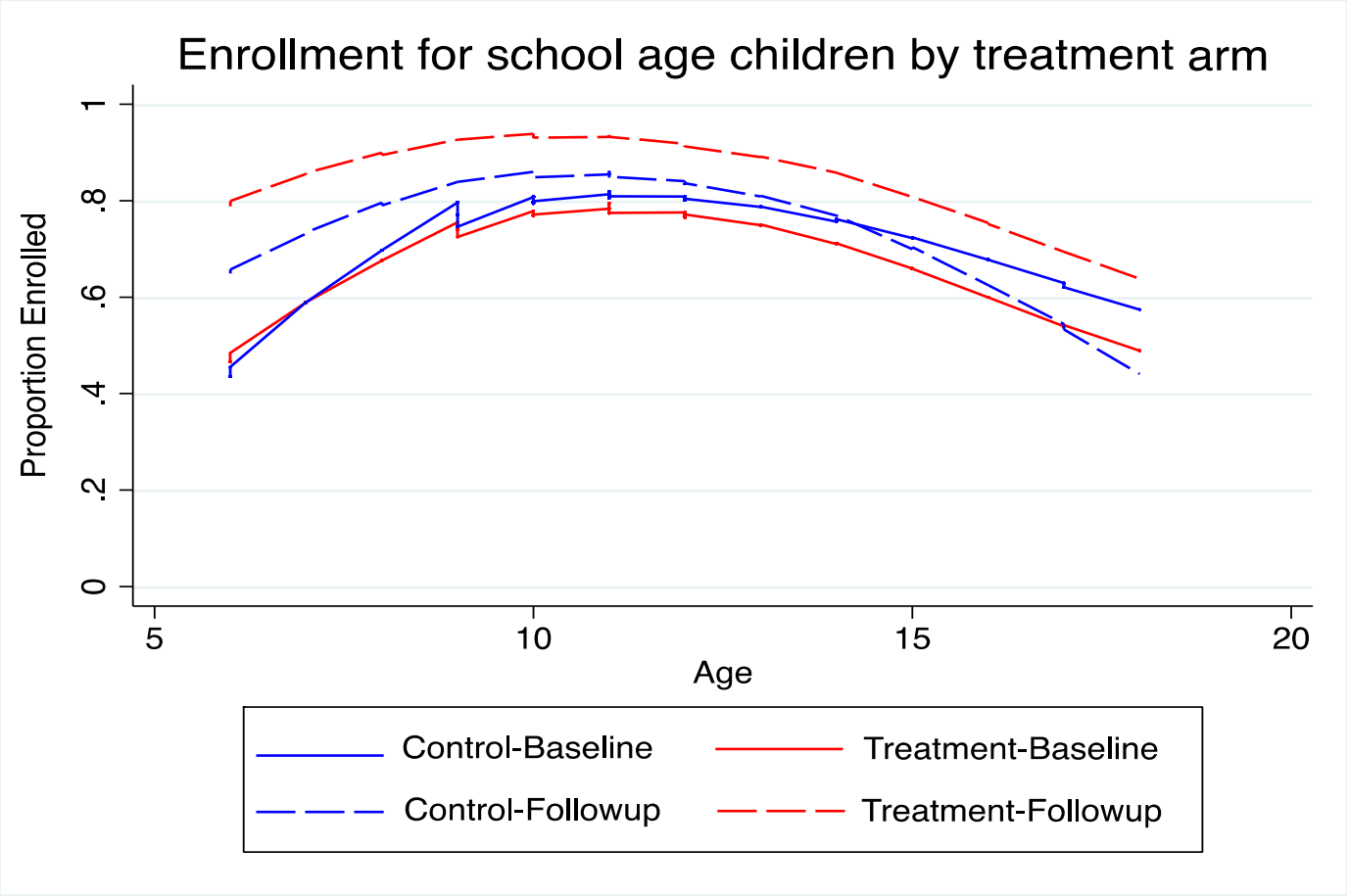
Effect of SCTP on Schooling

	(1) Enrolled in school	(2) Dropout	(3) Withdrawal for at least 2 weeks
Treatment Effect (DD)	0.12***	-0.04***	-0.04
	(0.02)	(0.02)	(0.03)
Individual and Household Controls	Yes	Yes	Yes
Observations	12,722	8,968	9,885

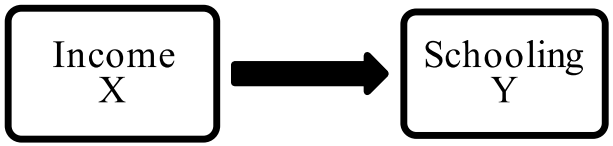
* pvalue<.10 ** pvalue<.05 ***pvalue<.01

Notes: Robust standard errors in parentheses clustered at the VC level.
Individual controls: age dummies, male, baseline: enrolled, ever had sex, morbidity past 2 weeks, orphan
Household controls: household head (female, age, age squared, ever attended school, chronic illness, married), log per capita expenditure, household size, total age group categories (0-5, 6-11, 12-17, 65+) and dummies for Traditional Authority residence

School enrollment over age, by treatment arm and wave

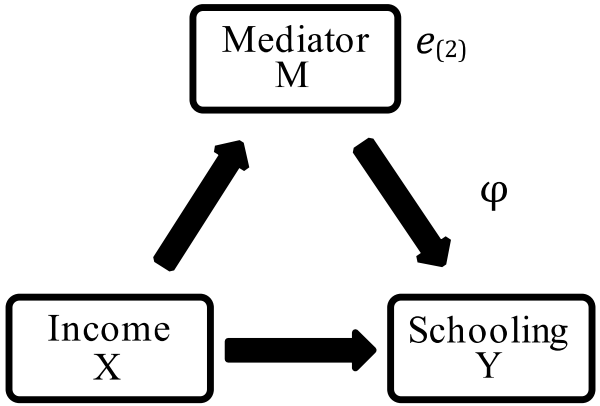


Mediation Analysis Diagram



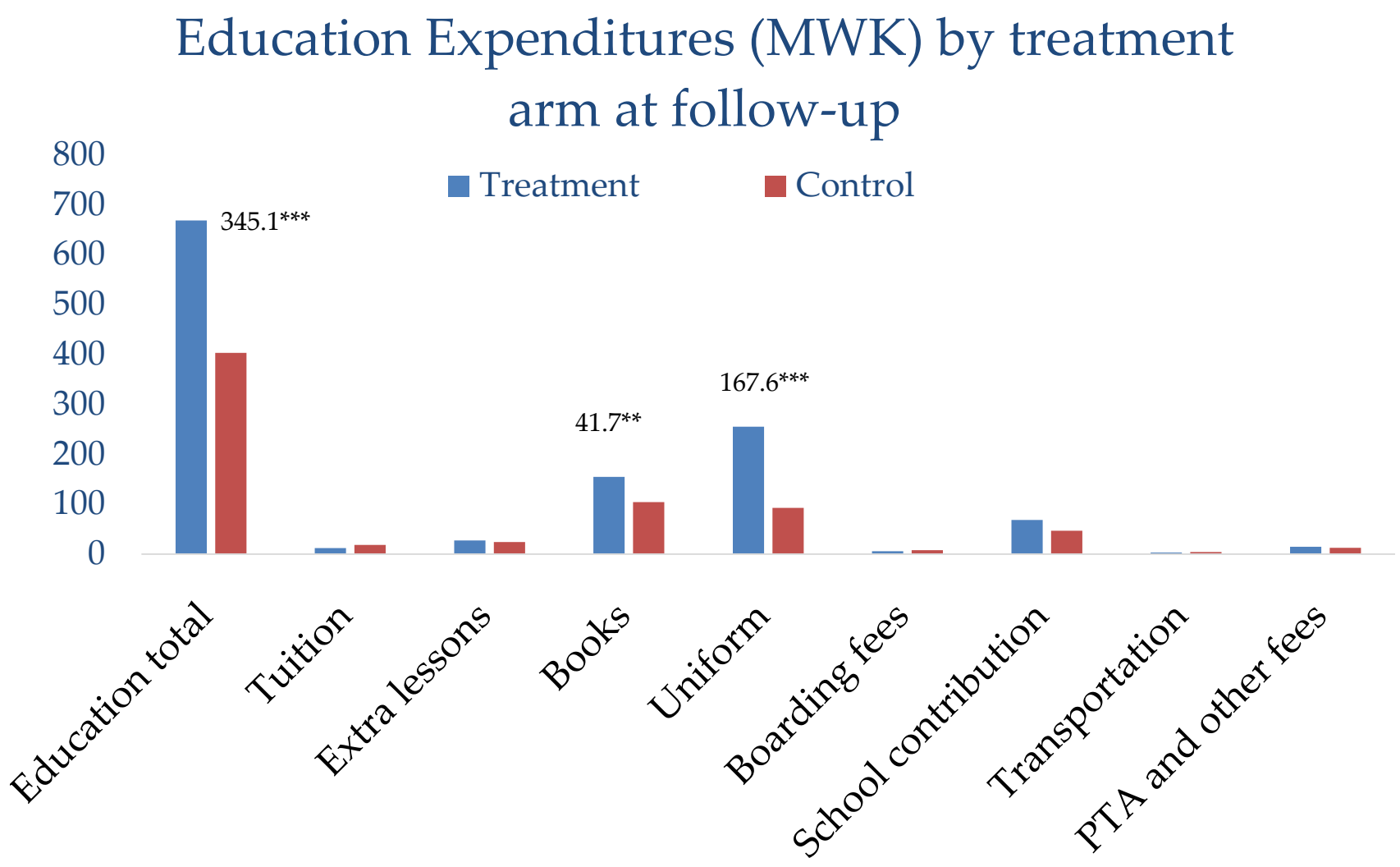
)

$$Y_{it} = \beta(T_i P_t) + \lambda T_i + \delta P_t + \phi X_{it} + e_{it(1)}$$



$$M_{it} = \propto_{(2)} + \delta(T_i P_t) + + \lambda T_i + \delta P_t + \phi X_{it} + e_{it\,(2)}$$

$$Y_{it} = \propto_{(3)} + \beta'(T_i P_t) + + \lambda T_i + \delta P_t + \phi X_{it} + \varphi M_{it} + e_{it\,(3)}$$


Education Expenditures (MWK) by treatment arm at follow-up
800
700
600
500
400
300
200
100
0
Treatment
Control
345.1***
41.7**
167.6***
Education total
Tuition
Extra lessons
Books
Uniform
Boarding fees
School contribution
Transportation
PTA and other fees

Effects of SCTP on schooling accounting for expenditure (100s MWK)

	Enrolled (original effect: 0.12***)			Dropout (original effect: -0.04***)		
Treatment Effect (DD)	0.04**	0.09***	0.09***	0.01	-0.04**	-0.03**
	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)
Mediators						
Education total	0.02***			-0.01***		
	(0.00)			(0.00)		
Notebooks & Stationary		0.06***			-0.02***	
		(0.01)			(0.00)	
Uniform			0.02***			-0.00***
			(0.00)			(0.00)
Observations	12,172	12,034	12,034	8,829	8,728	8,728

Qualitative Evidence

Baseline

- Most cited reasons for missing/ dropping out of school was not having the basic school supplies
  - Although uniforms are not compulsory in primary, sometimes schools will not allow children to attend.
  - Youth described a stigma of being without certain school items→ children have been bullied by teachers/school administrators
- Other reasons included needing to do informal wage labor to support the household or taking care of children

Follow-up

- Interviews from both caregivers and youth often mention that the reason the cash is helping them in school is because it enables the purchase of uniforms, soap, and school supplies.
- Youth also described how these changes have helped to facilitate the entire school experience including feeling socially accepted and academically engaged.

Conclusion and Policy Implications

- Results reveal that within a relatively short amount of time, unconditional cash programs can improve child-schooling outcomes and that parents will invest resources in their children even without an explicit condition.

- Implications are that in these ultra-poor contexts where enrollments are lower than socially desired, this type of poverty-targeted cash transfer program could result in large, cost-effective improvements in child schooling and human capital.

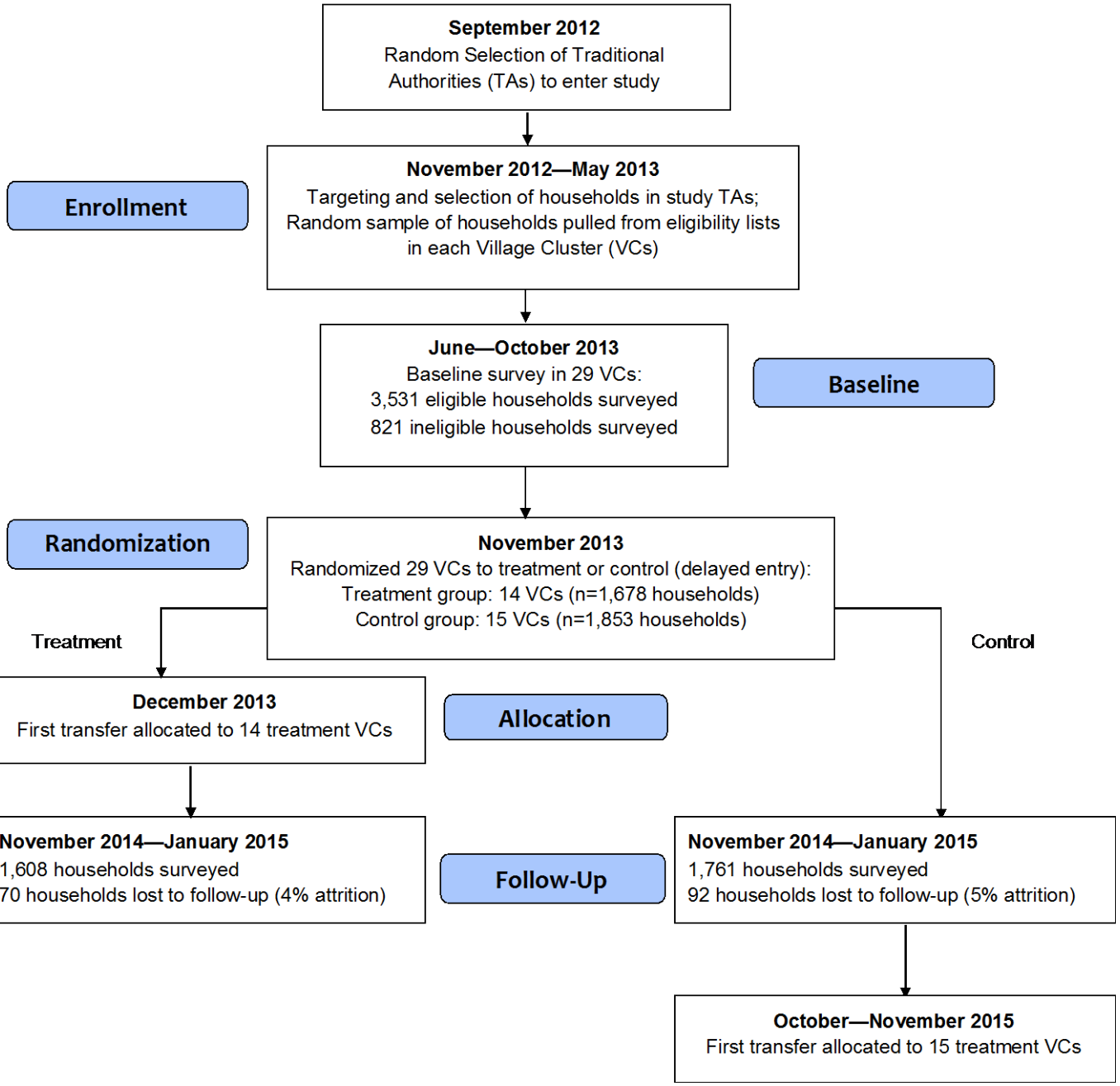
Future research

- **Supply-side**: Although Malawi's SCTP may help children enroll and stay in school, it is not clear, however, that this will lead to greater human capital accumulation—poor educational quality is a threat to achieving medium-term outcomes such as greater student achievement.

- **Transition to adulthood**: Even if quality improvements are gradual, schooling appears to be one of the most promising pathway through which cash transfers may contribute to the successful transition to adulthood.
  - Recent evidence has shown the protective relationship increases in school attendance has on adolescent development outcomes such as *early pregnancy, sexual behaviors,* and *mental health.*

Acknowledgments

Malawi SCTP Study Timeline



Baseline characteristics of school age children (ages 6-17)

	Treatment	Control	P-value (T-C)
	Mean (SD) or %		
Male	52.1	51.2	0.44
Age	10.8 (3.1)	10.6 (3.2)	0.22
Primary school age (6-13)	77.5	78.5	0.42
Past 2 weeks, suffered from illness or injury	18.6	17.0	0.43
Orphan	42.3	38.4	0.35
Schooling outcomes			
Enrolled in school	70.9	73.2	0.43
Dropout (if enrolled at start of year)	7.7	6.1	0.21
Withdrew for at least 2 weeks (if enrolled)	13.7	13.4	0.88
Household Characteristics			
Head went to school	37.3	35.8	0.81
Head can read	21.8	23.1	0.76
Head female	85.8	86.4	0.84
Head age	53.1 (18.5)	51.2 (17.8)	0.37
Head widow	38.0	35.3	0.52
Total members 6 to 11	1.8 (1.1)	1.9 (1.1)	0.23
Total members 12 to 17	1.5 (1.0)	1.4 (1.0)	0.35
Total members 18 to 64	1.4 (1.0)	1.4 (1.0)	0.91
Total members 65+	0.5 (0.6)	0.4 (0.6)	0.30
Household size	5.9 (2.0)	5.9 (2.0)	0.97
Per capita expenditure	32,920 (20,517)	32,133 (19,317)	0.71
Log per capita expenditure	10.4 (0.6)	10.4 (0.6)	0.86
Salima-Mangana	23.6	27.9	0.80
Salima-Ndindi	28.5	27.9	0.98
Mangochi-Jalasi	20.7	20.7	1.00
Mangochi-Mbwana Nyambi	27.2	23.5	0.82
Observations	3,022	3,292	
Clusters	14	15	

Additional Estimates of Treatment Effect on Schooling Outcomes

Unadjusted and Adjusted DD Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
	Enrolled in school		Dropout		Withdrawal for at least 2 weeks	
Treatment Effect	0.12***	0.12***	-0.04**	-0.04***	-0.03	-0.04
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
Individual and Household Controls	No	Yes	No	Yes	No	Yes
Observations	6,419	12,722	4,898	8,968	5,342	9,885

Adjusted Single Difference (SD) and Double Difference Estimates (DD)

	(1)	(2)	(3)	(4)	(5)	(6)
	Enrolled in school		Dropout		Withdrawal for at least 2 weeks	
	SD	DD	SD	DD	SD	DD
Treatment Effect	0.10***	0.12***	-0.03***	-0.04***	-0.03***	-0.04
	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.03)
Individual and Household Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,419	12,722	4,898	8,968	5,342	9,885

* pvalue<.10 ** pvalue<.05 ***pvalue<.01

Notes: Robust standard errors in parentheses clustered at the VC level. Individual controls: age dummies, male, baseline: enrolled, ever had sex, morbidity past 2 weeks, orphan / Household controls: household head (female, age, age squared, ever attended school, chronic illness, married), log per capita expenditure, household size, total age group categories (0-5, 6-11, 12-17, 65+) and dummies for Traditional Authority residence

‘Labeled Cash Transfer Effect’

- In Morocco, Benhassine et al. find that a cash transfer ‘labeled’ for education but with no enforced conditions improved enrollment rates
- Malawi also has ‘top-ups’ which are intended for educational purposes but there is no official condition to use them as such

Our Findings:

- At follow-up, beneficiaries were asked about rule perception:
  - Out of 1,562 treatment respondents, 81% believed they had to follow rules
  - School-related rules listed included: purchase school supplies (mentioned by 70%), send their children to primary school (26%), and send their children secondary school (8%).
- Some evidence that this belief in rules affected decisions to keep children in school but effects are relatively small
  - Only 30% believe that anyone checks that they are following the rules

Limitations

- Our mediation measures are not externally manipulated meaning the model may lack predictive power.
  - Nevertheless, the strength of our study design, (including the longitudinal data, randomizing economic conditions, and econometric methods for mediation) allows us to provide credibly strong evidence for our mediation results.
- Limited in testing short-term outcomes—no measures of achievement or aptitude.
- Educational items are only collected for enrolled students—would be helpful to collect data on material items for all children.