

The Impact of Cash and Health Insurance on Health Care Utilization in Ghana

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Objective

Examines the impact of an unconditional cash transfer program (LEAP) and a national social health insurance scheme (NHIS) in Ghana



LEAP Village (Photo: Mike Park)



National Health Insurance Scheme (NHIS)

- Launched in 2004.
- Open to all Ghanaian citizens.
- Benefits include out-patient and in-patient services, dental services.
- Annual fee based on their ability to pay.
 - Exemptions for elderly 70 years and above and indigent.



NHIS enrollment (Photo: Mike Park)



Livelihood Empowerment Against Poverty (LEAP) Program

Unconditional cash transfer program began in 2008

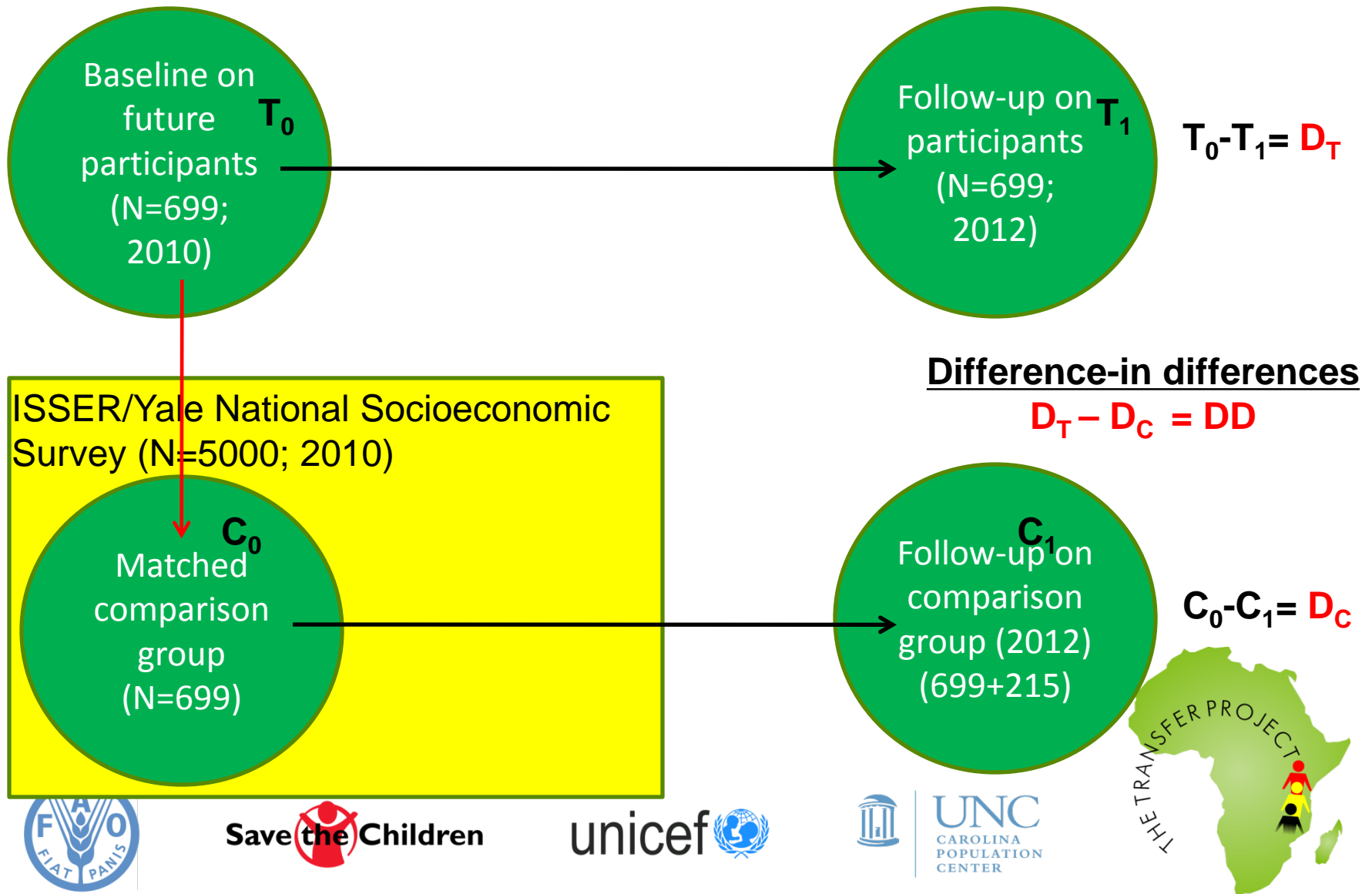
Eligibility is based on poverty and having a household member in at least one of three demographic categories:

- Single parent with orphan or vulnerable child;
- Elderly over age 65; or
- Person with extreme disability unable to work.

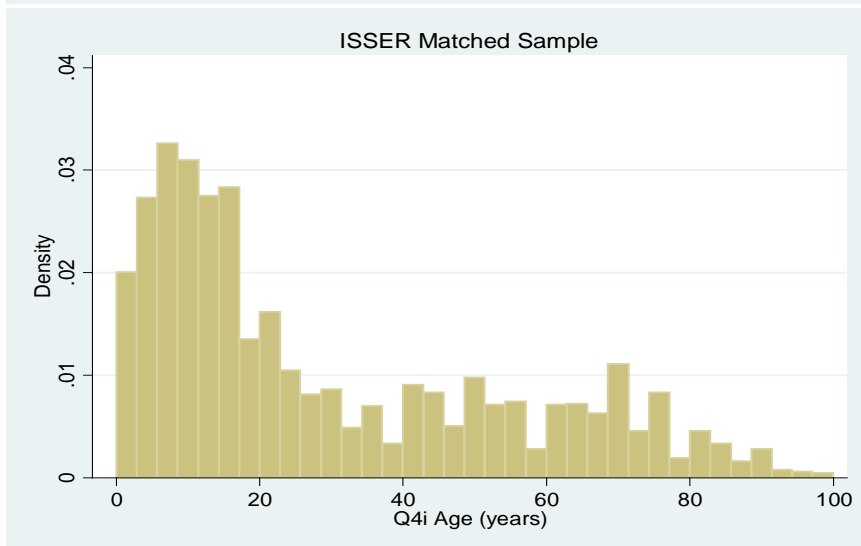
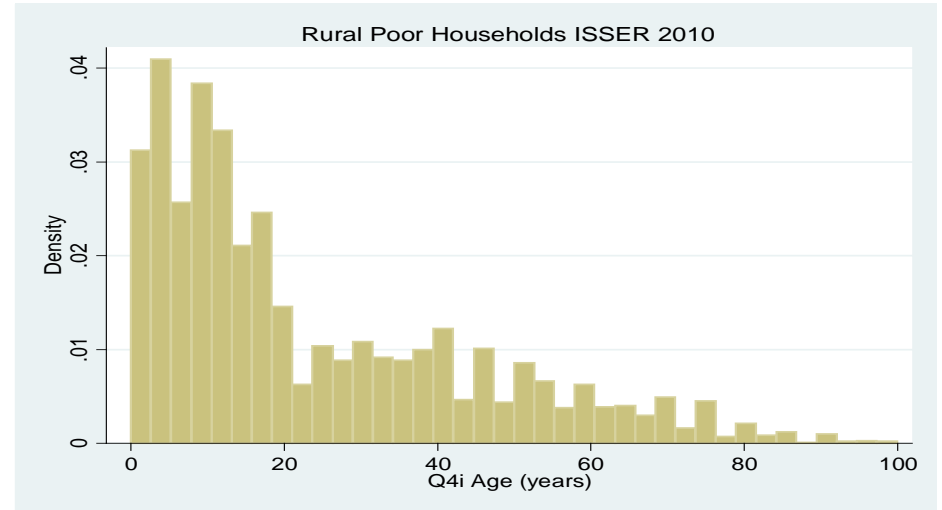
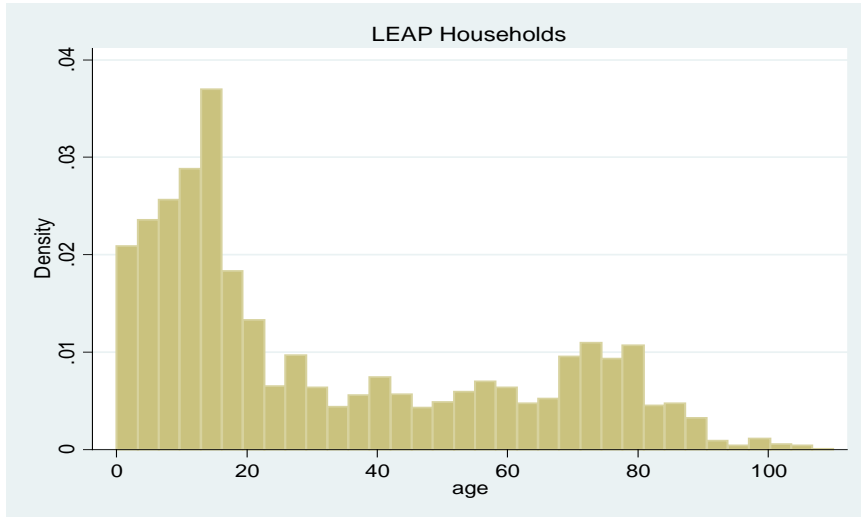
Provides cash and health insurance to beneficiaries



LEAP Evaluation Design: Difference in Differences Propensity Score Matching



Assessment of matching



Empirical model

$$(1) \quad Y_{it} = \alpha + \beta_1(2012)_{it} + \beta_2(T)_{it} + \beta_3(T * 2012)_{it} + \beta_4 X_{it} + \lambda_i + \varepsilon_{it}$$

Where:

- y_{it} = outcomes
- 2012=0 for baseline data (2010 ISSER); 1=for post-intervention period (2012)
- T=0 for comparison households; 1=for treatment households
- X_i = vector of control variables
- λ is a household fixed effect
- ε_{it} = error term

Use inverse probability weights to correct for further differences between T and ISSER comparison group



Empirical challenge: NHIS coverage increasing in both samples over time

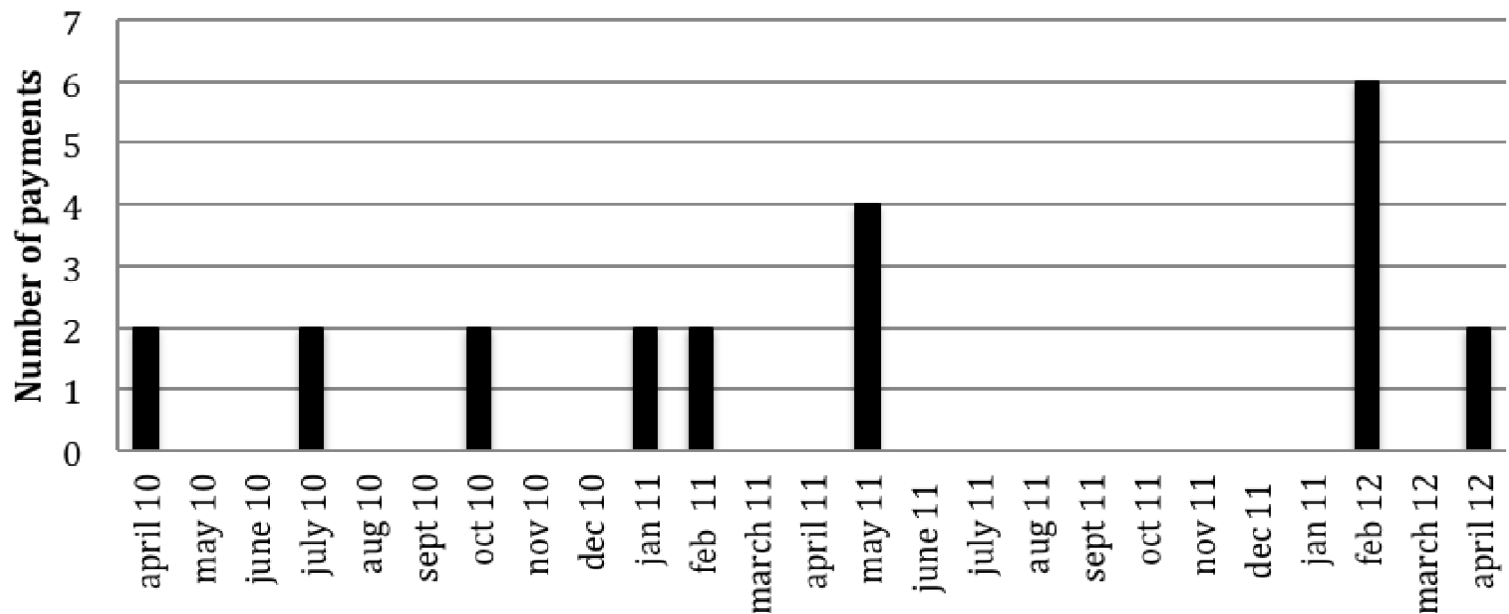
Proportion with NHIS by Sample and year			
	2010	2012	D
LEAP	65	90	25
Comparison Group	58	76	18

NHIS endogenous in Comparison Group



Operational challenges: infrequent payments and low level of transfer (7% of consumption)

Figure 4.1: LEAP payment frequency



Analysis Plan

Summary of empirical models

	Sample	Estimation Strategy	Impact
1	LEAP and comparison group	DD w/ LEAP as treatment	Cash
2	LEAP and comparison group	DD w/ LEAP as treatment + NHIS dummy	Cash
3	LEAP and comparison group with NHIS at baseline and follow-up	DD w/ LEAP as treatment	Cash
4	Comparison group without NHIS at baseline	DD w/ NHIS as treatment	NHIS after <2 years
5	Comparison group with no change in NHIS status (never or always)	DD w/ NHIS as treatment	NHIS after 2+years (dosage)



Means of Outcomes

	LEAP		Comparison group	
	2010	2012	2010	2012
<u>Household level</u>				
<u>Full sample</u>				
Health spending (Gh cedis)	4.37	6.53	2.26	9.08
Sought care	0.16	0.16	0.07	0.20
<u>Children 0-5</u>				
Illness	0.15	0.20	0.12	0.14
Sought care	0.14	0.22	0.07	0.11
Preventative care	0.02	0.09	0.02	0.02



Results

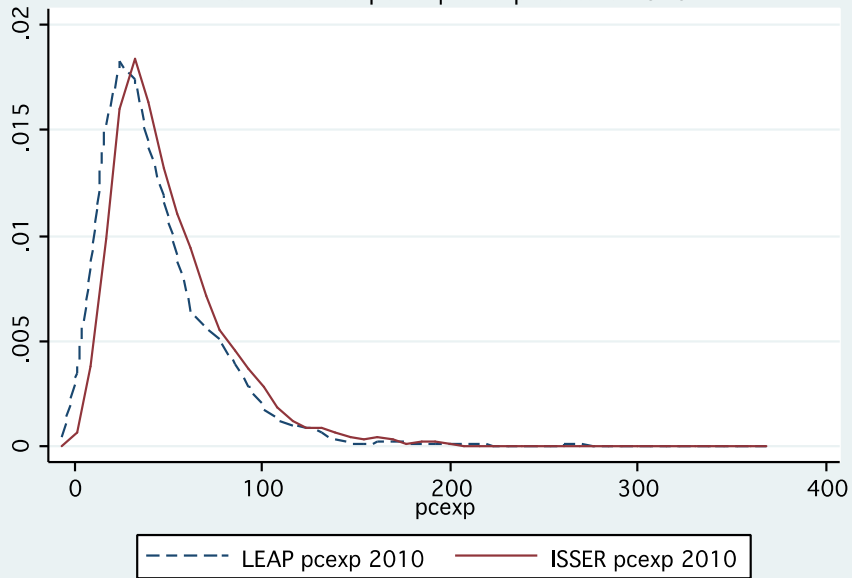
Impacts of cash and NHIS on health utilization and health expenditures

	(1) Health Expenditure	(2) Sought care	(3) Health Expenditure*	(4) Sought care*
1) Cash	-4.07 (3.46)	-0.16 (4.49)	-0.02 (0.02)	-0.15 (4.13)
2) Cash with NHIS dummy	-3.82 (3.21)	-0.17 (4.69)	0.03 (0.03)	-0.16 (-4.33)
3) Cash with NHIS at all waves	-3.52 (2.32)	-0.14 (2.93)	0.66 (0.52)	-0.14 (-2.89)
4) NHIS after one year	-3.84 (1.21)	0.31 (4.98)	-2.96 (-1.08)	0.28 (4.56)
5) NHIS after two years	-2.92 (1.14)	0.09 (1.68)	-2.33 (-1.09)	0.09 (1.65)

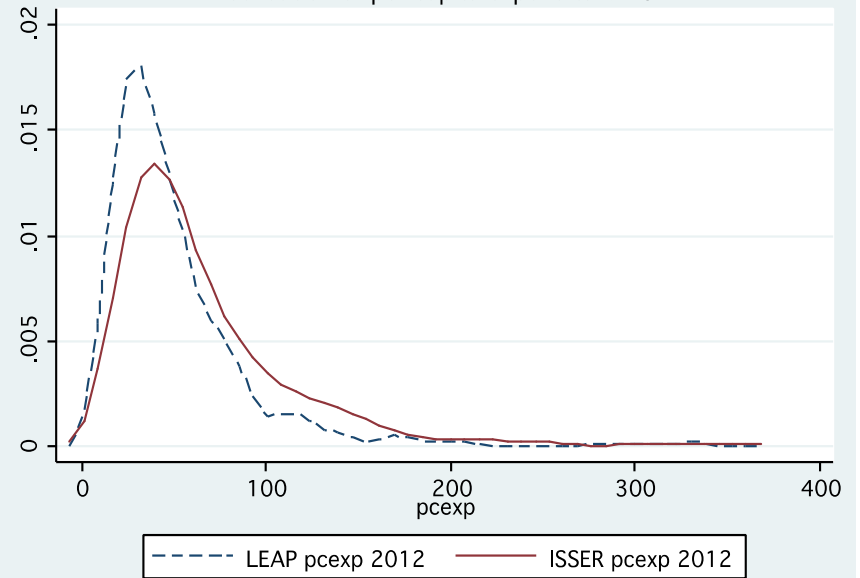
* indicates control for per capita total consumption included in model; t-statistics shown in parentheses beneath coefficients; coefficients significant at 10 percent or better shown in bold.



Distribution of per capita expenditure 2010



Distribution of per capita expenditure 2012



Results for children 0-5 years

	(1) Illness	(2) Sought care	(3) Preventative
1) LEAP	-0.01 (0.21) (N=1249)	0.01 (0.32) (N=1211)	0.05 (1.79) (N=1029)
2) LEAP with NHIS dummy	-0.03 (0.58) (N=1239)	0.00 (0.03) (N=1210)	0.04 (1.40) (N=1028)
3) LEAP with NHIS at all waves	-0.08 (1.03) (N=651)	0.00 (0.07) (N=627)	 (N=24*)
4) NHIS after one year	0.22 (2.67) (N=612)	0.12 (1.96) (N=606)	0.01 (0.53) (N=520)
5) NHIS after two years	0.12 (2.22) (N=527)	0.00 (0.01) (N=523)	0.00 (0.00) (N=454)

*Sample size was too small to calculate estimates.

t-statistics shown in parentheses beneath coefficients; coefficients significant at 5 percent or better shown in bold.



Key points so far

- Cash component reduces care by 14 pp but NHIS increases care by 31 pp; total effect is +17pp in health seeking behavior
 - Among children 0-5, total effect is 12pp
- Reduction in up to 7 (or as low as 3) Cedis in health spending due to combined effects of cash and NHIS
 - Impact of cash alone is 0 on health spending
- One more estimation strategy: compare LEAP to ISSER households that did not have NHIS at any point; this will give the combined LEAP+NHIS impact
- Further work to be done...
 - Look at other health outcomes
 - Re-work the propensity weights using community level variables (recently received)
 - Important because LEAP and ISSER households are from different communities



Table 1: Characteristics before and after matching

	Leap	ISSER Rural	ISSER matched sample
Demographics			
Household size	3.83	4.12	3.69
Children under 5	0.44	0.73	0.45
Children 6-12	0.77	0.84	0.76
Children 13-17	0.54	0.47	0.50
Elderly (>64)	0.76	0.31	0.65
Number of orphans	0.62	0.15	0.34
Orphan living in hhld	0.27	0.09	0.19
NHIS	0.64	0.44	0.58
Head characteristics			
Female Household	0.59	0.28	0.54
Age of Head	60.92	49.12	59.42
Widowed	0.39	0.13	0.30
Head schooling	0.30	0.57	0.47
Household characteristics			
No kitchen	0.09	0.03	0.07
No toilet	0.31	0.37	0.31
Pit latrine	0.38	0.46	0.42
Thatch roof	0.31	0.20	0.23
Crowd	0.69	0.68	0.71
Shared dwelling	0.29	0.24	0.27
Exclusive kitchen	0.31	0.58	0.38
Unprotected Water Source	0.21	0.24	0.23
Per capita spending (GH)	55.46	67.05	60.06
Livestock owned	0.41	0.57	0.44
	N=699	N=3136	N=699



Table 3: Mean baseline characteristics LEAP and ISSER samples

Indicator Variables	Unweighted			Weighted	
	LEAP N=699	ISSER N=699	ISSER N=215	ISSER N=699	ISSER N=914
Demographics					
Household size	3.83	3.69	3.98	3.99	3.99
Children under 5	0.44	0.45	0.70	0.40	0.40
Children 6-12	0.77	0.76	0.84	0.81	0.82
Children 13-17	0.54	0.50	0.50	0.64	0.63
Elderly (>64)	0.76	0.65	0.24	1.03	0.78
Number of orphans	0.62	0.34	0.14	0.50	0.48
Orphan living in hhld	0.27	0.19	0.08	0.30	0.30
NHIS	0.64	0.58	0.57	0.66	0.66
Head characteristics					
Female Household	0.59	0.54	0.37	0.65	0.64
Age of Head	60.92	59.42	48.57	67.19	66.37
Widowed	0.39	0.30	0.13	0.46	0.44
Head schooling	0.30	0.47	0.61	0.33	0.34
Household characteristics					
No kitchen	0.09	0.07	0.05	0.10	0.10
No toilet	0.31	0.31	0.30	0.31	0.31
Pit latrine	0.38	0.42	0.47	0.37	0.38
Thatch roof	0.31	0.23	0.24	0.30	0.30
Crowd	0.69	0.71	0.66	0.68	0.68
Shared dwelling	0.29	0.27	0.20	0.32	0.31
Exclusive kitchen	0.31	0.38	0.50	0.31	0.32
Unprotected Water	0.21	0.23	0.21	0.20	0.20
Per capita spending (GH)	55.46	60.06	61.09	48.47	48.99
Livestock owned	0.41	0.44	0.44	0.41	0.41
Propensity Score	0.52	0.38	0.12	0.63	0.60
	N=699	N=699	N=215	N=699	N=914

Bold indicates statistically significant at 5 percent.

