American Economic Review

"Price Subsidies, Diagnostic Tests, and Targeting of Malaria Treatment: Evidence from a Randomized Controlled Trial"

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DATA README FILE

Data Sources

The data was collected by the authors in three districts of Western Kenya. Details on the sampling strategy and timing of the data collection can be found in the final manuscript.

Datasets used for the analysis:

Datasets at the household-level:

(1) ACT_AllMain_FINAL_pub
- This includes the basic demographic information from the baseline survey, as well as information (merged from the pharmacy logs) about usage of the experimental vouchers and the patients for which they were used.

Datasets at the illness episode level:

(2) ACT_BaselineMal_FINAL_pub
- This is a list of illness episodes reported by households at baseline, with information on how the household dealt with it.

(3) ACT_IllLvlMainWithMalProbs_FINAL_pub
- This is a list of illness episodes reported by households at endline, with information on how the household dealt with it.

(4) ACT_HHFollowUp_All_FINAL_pub
- This is the "Symptoms Database" described in the paper

Datasets at the drug shop visit level:

(5) ACT_PharmLogPos_FINAL_pub
- This includes information on the drug shop visits that involved a study voucher redemption.

(6) ACT_NonProjectTxns_FINAL_pub
- This includes information about non-ACT antimalarials purchased by study households from drug shops over the study period.

All variables are labeled in the dataset. The labels are also shown below.
The key identified to be used to merge datasets with each other is "householdid".

Do-File

The analysis was done in Stata 12. The do-file named **ACT_MainPaperTables_REPLICATION.do** produces all the results in the paper and appendix A. All results are clearly commented in the do-file with the Table /Figure number to which they refer.

The do-file named **ACT_WebAppendixH_REPLICATION.do** reproduces all the tables in Appendix H, and the do-file named **ACT_WebAppendixM_REPLICATION.do** reproduces all the tables in Appendix M.

Variable Name	Description
Dataset 1: ACT_AllMain_FINAL_pub	
householdid	Household ID
checklistonly	Household not located for baseline survey
all	=1 for all
totstrata	Randomization stratum
coartemprice	RCT arm: assigned ACT price during study period
act40	RCT arm: assigned ACT price =40 Ksh for an adult dose
act60	RCT arm: assigned ACT price =60 Ksh for an adult dose
act100	RCT arm: assigned ACT price =100 Ksh for an adult dose
act500	RCT arm: assigned ACT price =500 Ksh for an adult dose
rdt_any	RCT arm: received RDT vouchers
rdt_none	RCT arm: received no RDT voucher
rdt_free	RCT arm: received free RDT vouchers
rdt_15	RCT arm: received RDT vouchers at 15Ksh
rdt_15r	RCT arm: received RDT vouchers at 15Ksh with 15 Ksh rebate on ACT price if +ve
ex_post	RCT arm: sampled for ex-post RDT
head_fem	hh head is female
B_head_age	from baseline: age of head
B_head_age_imputed	from baseline: age of head with missing replaced by sample mean
B_head_age_missing	from baseline: age of head missing
headage_x	Deciles of HH head age (11=missing). Includes all tmts
head_edu	from baseline: years of education of household head
head_lit	from baseline: head can read and write
B_knowledge_correct	from baseline: knows only mosquitoes transmit malaria
head_mar	from baseline: interviewed head married
head_dep	from baseline: number of dependents
subfarm	from baseline: main occupation is subsistence farming
B_hh_size	from baseline: # of hh members
B_adultteen	from baseline: number of adult and teen members (age>=9) in hh
head_acres	from baseline: acres of land
B_dist_km	distance (km) from household to study chemist
dist_clinic	distance to closest health center
num_bednets	from baseline: number of bednets owned
share_undernet	baseline: share of hh members sleeping under net (computed)
B_heard_act	from baseline: heard of ACTs

B_act_best	from baseline A26: would buy ACT if money wasn't pb
B_heard_rdt	from baseline: heard of RDTs
base_mtest	from baseline: someone took either RDT or microscopy test in past month
base_rdt	from baseline: someone in household took RDT in past month
base_micro	baseline C33: someone in household took microscopy test in past month
treat_h2o	baseline a14: treated drinking water in past month
B_mal_ct	baseline table C: total malaria episodes in hh
B_antimal_cost	from baseline: average cost across malaria episodes for which cost provided
B_mal_episode	baseline table C: any malaria episode in hh
B_mal_baby_hh	from baseline: number of babies (age<4) who had malaria
B_mal_kid_hh	from baseline: number of kids (age<9 & age>=4) who had malaria
B_mal_teen_hh	from baseline: number of teen members (age<14 & age>=9) who had malaria
B_mal_adult_hh	from baseline: number of adult members (age>14) who had malaria
sought_treat	from pharma logs: sought treatment at chemist with vouchers
sought_treat2	from pharma logs: sought treatment at chemist a 2 time with vouchers
sought_treat3	from pharma logs: sought treatment at chemist a 3 time with vouchers
sought_treat4	from pharma logs: sought treatment at chemist a 4 time with vouchers
num_actv	Admin data: number of ACT vouchers redeemed over entire course of study
used_act	admin data: used ACT voucher, 1st log entry for the hh (before endline)
used_act2	admin data: used ACT voucher, log entry 2 for the hh (before endline)
used_act3	admin data: used ACT voucher, log entry 3 for the hh (before endline)
used_act4	admin data: used ACT voucher, log entry 4 for the hh (before endline)
used_act_adult	admin data: used ACT voucher for adult (>14), 1st log entry for the hh (before e
used_act_teen	admin data: used ACT voucher for teen (10-14), 1st log entry for the hh (before
used_act_kid	admin data: used ACT voucher for child (5-9), 1st log entry for the hh (before e
used_act_baby	admin data: used ACT voucher for baby (<=4), 1st log entry for the hh (before en
used_act_adult2	admin data: used ACT voucher for adult (>14), log entry 2 for the hh (before en
used_act_teen2	admin data: used ACT voucher for teen (10-14), log entry 2 for the hh (before en
used_act_kid2	admin data: used ACT voucher for child (5-9), log entry 2 for the hh (before end
used_act_baby2	admin data: used ACT voucher for baby (<=4), log entry 2 for the hh (before end
used_act_adult3	admin data: used ACT voucher for adult (>14), log entry 3 for the hh (before en
used_act_teen3	admin data: used ACT voucher for teen (10-14), log entry 3 for the hh (before en
used_act_kid3	admin data: used ACT voucher for child (5-9), log entry 3 for the hh (before end
used_act_baby3	admin data: used ACT voucher for baby (<=4), log entry 3 for the hh (before end
used_act_adult4	admin data: used ACT voucher for adult (>14), log entry 4 for the hh (before en
used_act_teen4	admin data: used ACT voucher for teen (10-14), log entry 4 for the hh (before en
used_act_kid4	admin data: used ACT voucher for child (5-9), log entry 4 for the hh (before end

used_act_baby4	admin data: used ACT voucher for baby (<=4), log entry 4 for the hh (before end
used_rdt	admin data: used RDT voucher, 1st log entry for the hh (before endline)
rdt_pos	from pharma logs: 1st RDT positive
LOG_mal_prob21	predicted malaria proba. (based on symptoms in pharma log), 1st log entry for hh
LOG_mal_prob2	predicted malaria proba. (based on symptoms in pharma log), log entry 2 for hh
LOG_patient_age1	admin data: age of patient, 1st log entry for the hh
LOG_patient_age2	admin data: age of patient, log entry 2 for the hh
LOG_patient_age3	admin data: age of patient, log entry 3 for the hh
LOG_patient_age4	admin data: age of patient, log entry 4 for the hh
E_tabJ_illness	from endline: any illness episode reported at endline

Dataset 2: ACT_BaselineMal_FINAL_pub

householdid	Household ID
coartemprice	Coartem Price
b5_age_years	patient's age in years
b6_age_months	patient's age in months
adult	patient is an adult (>14)
teen	patient is a teen (10-14)
kid	patient is a child (5-9)
baby	patient is a baby (<=4)
diag_init	diagnostic made at: 1=Health Center,2=Dispensary,3=Chemist,4=self,5=Other,6=Can'
got_drugs	drugs gotten from: 1=Health Center,2=Dispensary,3=Chemist,4=Other,5=Can't Rememb
took_act	Took ACT
took_sp	Took Sulfadoxine-Pyrimethamine (SP)
took_aq	Took Amodiaquine (AQ)
took_other	Took Other Antimalarial
forgot_name	Forgot Name of Antimalarial Taken
drugs_public	got_drugs==1 | got_drugs==2
drugs_chemist	got_drugs==3
drugs_other	got_drugs==4 | got_drugs==5
antimal_cost	from baseline: average cost across malaria episodes for which antimalarial taken
malaria	episode considered by household to be malaria
no_antimal	No Antimalarial Taken
stop	End of dataset

Dataset 3: ACT_IllLvlMainWithMalProbs_FINAL_pub

householdid	Household ID
illness	Any illness episode reported at endline
episode_ID	episode ID
all	=1 for all
coartemprice	RCT arm: assigned ACT price during study period
act40	RCT arm: assigned ACT price =40 Ksh for an adult dose
act60	RCT arm: assigned ACT price =60 Ksh for an adult dose
act100	RCT arm: assigned ACT price =100 Ksh for an adult dose
act500	RCT arm: assigned ACT price =500 Ksh for an adult dose
rdt_any	RCT arm: received RDT vouchers
ex_post	RCT arm: sampled for ex-post RDT
num_actv	Admin data: number of ACT vouchers redeemed over entire course of study
LOG_patient_age	age of patient
adult	illness episode recorded for an adult above 13
first_ep	first illness episode in household after voucher distribution
second_ep	second illness episode in household after voucher distribution
max_length	How many days ago was first illness episode in household
sought_treat	Sought malaria treatment for this episode
care_chem	J5: went to chemist
care_nothing	J5: did nothing
care_hc	J5: went to facility (J5<=23)
took_maltest	J7: took malaria test
took_rdt	J7: took RDT test
took_micro	J7: took microscopy test
took_act	episode treated with an ACT
took_antimal	episode treated with any antimalarial
took_antibio	episode treated with antibiotic
used_act_v	used an ACT voucher for this episode
used_act_v_adult	used_act_v occured for adult
took_act_hc	Used an ACT obtained at Health center
took_act_chem	Used an ACT obtained at chemist
took_subst	Used a substandard malaria drug
used_act	admin data: used ACT voucher, 1st log entry for the hh (before endline)
used_rdt	Used an RDT to diagnose this episode (before endline)
used_act_v_baby	used_act_v occured for baby

used_act_v_kid	used_act_v occured for kid
used_act_v_teen	used_act_v occured for teen
mal_prob	Predicted probability WITH FEVER, WITH AGE (INTERAC 14)
mal_prob2	Predicted probability W/O FEVER, WITH AGE, W/O HH CHARS (INTERAC 14)
mal_prob3	Predicted probability W/O FEVER, W/O AGE, W/O HH CHARS
mal_prob4	Predicted probability W/O FEVER, WITH AGE, W/O HH CHARS (INTERAC 14) - CHEM DATA
checklistonly	Household not located for baseline survey
B_head_age_imputed	from baseline Table B: age of head with missing replaced by sample mean
B_head_age_missing	from baseline Table B: age of head missing
head_lit	from baseline: head can read and write
used_act2	admin data: used ACT voucher, log entry 2 for the hh
used_act3	admin data: used ACT voucher, log entry 3 for the hh
used_act4	admin data: used ACT voucher, log entry 4 for the hh
used_act_adult	admin data: used ACT voucher for adult (>14), 1st log entry for the hh (before e
used_act_teen	admin data: used ACT voucher for teen (10-14), 1st log entry for the hh (before
used_act_kid	admin data: used ACT voucher for child (5-9), 1st log entry for the hh (before e
used_act_baby	admin data: used ACT voucher for baby (<=4), 1st log entry for the hh (before en
used_act_adult2	admin data: used ACT voucher for adult (>14), log entry 2 for the hh (before en
used_act_teen2	admin data: used ACT voucher for teen (10-14), log entry 2 for the hh (before en
used_act_kid2	admin data: used ACT voucher for child (5-9), log entry 2 for the hh (before end
used_act_baby2	admin data: used ACT voucher for baby (<=4), log entry 2 for the hh (before end
used_act_adult3	admin data: used ACT voucher for adult (>14), log entry 3 for the hh (before en
used_act_teen3	admin data: used ACT voucher for teen (10-14), log entry 3 for the hh (before en
used_act_kid3	admin data: used ACT voucher for child (5-9), log entry 3 for the hh (before end
used_act_baby3	admin data: used ACT voucher for baby (<=4), log entry 3 for the hh (before end
used_act_adult4	admin data: used ACT voucher for adult (>14), log entry 4 for the hh (before en
used_act_teen4	admin data: used ACT voucher for teen (10-14), log entry 4 for the hh (before en
used_act_kid4	admin data: used ACT voucher for child (5-9), log entry 4 for the hh (before end
used_act_baby4	admin data: used ACT voucher for baby (<=4), log entry 4 for the hh (before end
used_act_adultteen	from pharma logs: used_act for adult/teen
used_act_kidbaby	from pharma logs: used_act for kid/baby
used_act30	used any act voucher within first 30 days
used_act_pos	used ACT and ex-post RDT was positive
totstrata	Randomization stratum
stdum1	totstrata== 1.0000
stdum2	totstrata== 2.0000
stdum3	totstrata== 3.0000

stdum4	totstrata== 4.0000
stdum5	totstrata== 5.0000
stdum6	totstrata== 6.0000
stdum7	totstrata== 7.0000
stdum8	totstrata== 8.0000
stdum9	totstrata== 9.0000
stdum10	totstrata== 10.0000
stdum11	totstrata== 11.0000
stdum12	totstrata== 12.0000
stdum13	totstrata== 13.0000
stdum14	totstrata== 14.0000
stdum15	totstrata== 15.0000
stdum16	totstrata== 16.0000
stdum17	totstrata== 17.0000
stdum18	totstrata== 18.0000
stdum19	totstrata== 19.0000
stdum20	totstrata== 20.0000
stdum21	totstrata== 21.0000
stdum22	totstrata== 22.0000
stdum23	totstrata== 23.0000
stdum24	totstrata== 24.0000
stdum25	totstrata== 25.0000
stdum26	totstrata== 26.0000
stdum27	totstrata== 27.0000
stdum28	totstrata== 28.0000
B_knowledge_correct	from baseline: knows only mosquitoes cause malaria
used_act_adultteen2	from pharma logs: used_act for adult/teen VISIT 2
used_act_kidbaby2	from pharma logs: used_act for kid/baby VISIT 2
used_act_adultteen3	from pharma logs: used_act for adult/teen VISIT 3
used_act_kidbaby3	from pharma logs: used_act for kid/baby VISIT 3
used_act_adultteen4	from pharma logs: used_act for adult/teen VISIT 4
used_act_kidbaby4	from pharma logs: used_act for kid/baby VISIT 4
wt5_tertile_NoFever_rel1	In bottom tertile of malaria positivity
wt5_tertile_NoFever_rel2	In middle tertile of malaria positivity

Dataset 4: ACT_HHFollowUp_All_FINAL_pub

householdid	Household ID
mo_ep_num	episode ID
days_ago	Number of days since symptoms first appeared
rdt_pos	RDT positive
LOG_patient_age	age of patient
age_sq	Age of patient squared
old2	Age 14 or above
cough	symptom: cough (1=yes, 0=no)
chills	symptom: chills (1=yes, 0=no)
headache	symptom: headache (1=yes, 0=no)
diarrhea	symptom: diarrhea (1=yes, 0=no)
runnynose	symptom: runnynose (1=yes, 0=no)
vomit	symptom: vomit (1=yes, 0=no)
bodypain	symptom: bodypain (1=yes, 0=no)
malaise	symptom: malaise (1=yes, 0=no)
appetite	symptom: appetite (1=yes, 0=no)
cough_old2	cough x old2
chills_old2	chills x old2
headache_old2	headache x old2
diarrhea_old2	diarrhea x old2
runnynose_old2	runnynose x old2
vomit_old2	vomit x old2
bodypain_old2	bodypain x old2
malaise_old2	malaise x old2
appetite_old2	appetite x old2
LOG_patient_age_old2	LOG_patient_age x old2
age_sq_old2	age_sq x old2

Dataset 5: ACT_PharmLogPos_FINAL_pub

householdid	Household ID
episode	episode number
act40	RCT arm: assigned ACT price =40 Ksh for an adult dose
act60	RCT arm: assigned ACT price =60 Ksh for an adult dose
act100	RCT arm: assigned ACT price =100 Ksh for an adult dose
act500	RCT arm: assigned ACT price =500 Ksh for an adult dose
rdt_any	RCT arm: received RDT vouchers
ex_post	RCT arm: sampled for ex-post RDT
LOG_patient_age	admin data: age of patient
LOG_mal_prob2	predicted malaria probability (based on symptoms in pharma log)
used_act	admin data: used ACT voucher, 1st log entry for the hh (before endline)
used_act_adult	admin data: used ACT voucher for adult (>14) (before endline)
used_rdt	admin data: used RDT voucher (before endline)
rdt_pos	admin data: tested RDT positive
used_act_teen	admin data: used ACT voucher for teen (10-14) (before endline)
used_act_kid	admin data: used ACT voucher for child (5-9) (before endline)
used_act_baby	admin data: used ACT voucher for baby (<=4) (before endline)

Dataset 6: ACT_NonProjectTxns_FINAL_pub

a1_log_id	Log entry ID
patient_age	age of patient for whom drugs were purchased
c2_total_other_meds_purchased	total number of drugs purchased for episode
c3a_med1_name	Name of medication 1
c3b_med1_type	Type: 1=antimalarial, 2=antibiotic, 3=painkiller, 4=antiworm, 5=cough, 6=other
c3c_med1_total_cost	Total amount paid for medication 1
c3d_med1_full_dose	Did patient buy full dose? 1=yes, 2=no
c3e_med1_cost_full_dose	If did not buy full dose: cost of full dose
c3f_med1_buy_full_dose_later	Did chemist tell patient to return to buy rest of dose? 1=yes, 2=no
c4a_med2_name	Name of medication 2
c4b_med2_type	Type: 1=antimalarial, 2=antibiotic, 3=painkiller, 4=antiworm, 5=cough, 6=other
c4c_med2_total_cost	Total amount paid for medication 2
c4d_med2_full_dose	Did patient buy full dose? 1=yes, 2=no
c4e_med2_cost_full_dose	If did not buy full dose: cost of full dose
c4f_med2_buy_full_dose_later	Did chemist tell patient to return to buy rest of dose? 1=yes, 2=no
price_antimal	price paid for antimalarial