clear all

set more off

\*Set Central Directory

cd "/Users/Wagner/Dropbox/Uganda ORS/VHT study"

\*The Following Files Have Been Run:

\* "Baseline\_Clean.do"

\* "Baseline\_ChildLevel"

\* "Endline\_Clean.do"

\* "Endline\_ChildLevel"

\* "Variables.do"

\*These create two data sets we will use for this analysis

\* "baseline\_child\_level\_vars.dta"

\* "endline\_child\_level\_vars.dta"

\*Setting data sets

global endline "Endline/endline\_child\_level\_vars.dta"

global baseline "Baseline/baseline\_child\_level\_vars.dta"

\*Table 1: Exogenous Variables at Endline

use $endline, clear

\*Defining variables to use in table

\*\*\*\*PLACE HOLDER VARIABLEs START\*\*\*\*\*\*

gen birth\_order=runiform()

gen water= runiform() if qb2==1

recode water (0/.2=1)(.21/.4=2)(.41/.6=3)(.61/.8=4)(.81/1=5)

replace water=. if water<1

gen income=water

\*\*\*\*PLACE HOLDER VARIABLEs END\*\*\*\*\*\*

tab edu, gen(edu)

tab water, gen(water)

tab income, gen(income)

global exog\_binary edu1 edu2 edu3 worked male diar\_monthly diarr\_prev blood fever water1 water2 water3 water4 water5 income1 income2 income3 income4 income5

global exog\_cont ct\_age ch\_age num\_child num\_child\_under5

\*Matrix to store estimates

mat tab1\_cont= (.,.,.,.)

mat rownames tab1\_cont= na

mat colnames tab1\_cont= "Cntrl Mean" "Grp2-Cntrl" "Grp2-Grp3" "Grp2-Grp4"

foreach var in $exog\_cont{

sum `var' if treat==0

local cntrl\_mean= round(r(mean), .001)

local cntrl\_mean\_sd= round(r(sd), .001)

reg `var' I.treat, cluster(village)

local grp2=round(\_b[1.treat], .001)

local grp2\_se=round(el(r(table), 2, 2), .001)

local grp2\_p=round(el(r(table), 4, 2), .001)

reg `var' Ib2.treat, cluster(village)

local grp2\_3=round(el(r(table), 1, 1), .001)

local grp2\_3\_se=round(el(r(table), 2, 1), .001)

local grp2\_3\_p=round(el(r(table), 4, 1), .001)

reg `var' Ib3.treat, cluster(village)

local grp2\_4=round(el(r(table), 1, 1), .001)

local grp2\_4\_se=round(el(r(table), 2, 1), .001)

local grp2\_4\_p=round(el(r(table), 4, 1), .001)

matrix `var' =(`cntrl\_mean',`grp2', `grp2\_3', `grp2\_4' \ `cntrl\_mean\_sd',`grp2\_se', `grp2\_3\_se', `grp2\_4\_se' \ . , `grp2\_p', `grp2\_3\_p', `grp2\_4\_p')

mat rownames `var'= `var' `var'\_se `var'\_pval

mat colnames `var'= "Cntrl Mean" "Grp2-Cntrl" "Grp2-Grp3" "Grp2-Grp4"

matrix tab1\_cont= (tab1\_cont \ `var')

}

\*Matrix to store estimates

mat tab1\_bin= (.,.,.,.)

mat rownames tab1\_bin= na

mat colnames tab1\_bin= "Cntrl Mean" "Grp2-Cntrl" "Grp2-Grp3" "Grp2-Grp4"

foreach var in $exog\_binary{

sum `var' if treat==0

local cntrl\_mean= round(r(mean), .001)

local cntrl\_mean\_sd= round(r(sd), .001)

logit `var' I.treat, cluster(village)

margins, dydx(1.treat)

local grp2=round(el(r(table), 1, 2), .001)

local grp2\_se=round(el(r(table), 2, 2), .001)

local grp2\_p=round(el(r(table), 4, 2), .001)

logit `var' Ib2.treat, cluster(village)

margins, dydx(1.treat)

local grp2\_3=round(el(r(table), 1, 1), .001)

local grp2\_3\_se=round(el(r(table), 2, 1), .001)

local grp2\_3\_p=round(el(r(table), 4, 1), .001)

logit `var' Ib3.treat, cluster(village)

margins, dydx(1.treat)

local grp2\_4=round(el(r(table), 1, 1), .001)

local grp2\_4\_se=round(el(r(table), 2, 1), .001)

local grp2\_4\_p=round(el(r(table), 4, 1), .001)

matrix `var' =(`cntrl\_mean',`grp2', `grp2\_3', `grp2\_4' \ `cntrl\_mean\_sd',`grp2\_se', `grp2\_3\_se', `grp2\_4\_se' \ . , `grp2\_p', `grp2\_3\_p', `grp2\_4\_p')

mat rownames `var'= `var' `var'\_se `var'\_pval

mat colnames `var'= "Cntrl Mean" "Grp2-Cntrl" "Grp2-Grp3" "Grp2-Grp4"

matrix tab1\_bin= (tab1\_bin \ `var')

}

mat tab1= (tab1\_cont\tab1\_bin)

mat list tab1, format(%6.3f)

putexcel set "Tables/tab1.csv", replace

putexcel A1 = matrix(tab1),names

\*Table 2: Endogenous Variables at Baseline

use $baseline, clear

\*Defining variables to use in table

global endog diarr\_prev ors ors\_zinc ors\_sameday anti heard\_ors heard\_zinc ors\_free zinc\_free chp\_visit

\*Matrix to store estimates

mat tab2= (.,.,.,.)

mat rownames tab2= na

mat colnames tab2= "Cntrl Mean" "Grp2-Cntrl" "Grp2-Grp3" "Grp2-Grp4"

foreach var in $endog{

sum `var' if treat==0

local cntrl\_mean= round(r(mean), .001)

local cntrl\_mean\_sd= round(r(sd), .001)

logit `var' I.treat, cluster(village)

margins, dydx(1.treat)

local grp2=round(el(r(table), 1, 2), .001)

local grp2\_se=round(el(r(table), 2, 2), .001)

local grp2\_p=round(el(r(table), 4, 2), .001)

logit `var' Ib2.treat, cluster(village)

margins, dydx(1.treat)

local grp2\_3=round(el(r(table), 1, 1), .001)

local grp2\_3\_se=round(el(r(table), 2, 1), .001)

local grp2\_3\_p=round(el(r(table), 4, 1), .001)

logit `var' Ib3.treat, cluster(village)

margins, dydx(1.treat)

local grp2\_4=round(el(r(table), 1, 1), .001)

local grp2\_4\_se=round(el(r(table), 2, 1), .001)

local grp2\_4\_p=round(el(r(table), 4, 1), .001)

matrix `var' =(`cntrl\_mean',`grp2', `grp2\_3', `grp2\_4' \ `cntrl\_mean\_sd',`grp2\_se', `grp2\_3\_se', `grp2\_4\_se' \ . , `grp2\_p', `grp2\_3\_p', `grp2\_4\_p')

mat rownames `var'= `var' `var'\_se `var'\_pval

mat colnames `var'= "Cntrl Mean" "Grp2-Cntrl" "Grp2-Grp3" "Grp2-Grp4"

matrix tab2= (tab2 \ `var')

}

mat list tab2, format(%6.3f)

putexcel set "Tables/tab2.csv", replace

putexcel A1 = matrix(tab2),names

\*Table 3

encode branch, gen(branch2)

global intermediate obtained\_ors obtained\_ors\_fr obtained\_ors\_hm stored\_cur ors\_stored\_diar obtained\_zinc obtained\_zinc\_fr obtained\_zinc\_hm zinc\_stored\_cur zinc\_stored\_diar chp\_visit visit\_chp\_home seek\_treat

mat tab3= (.,.,.,.)

mat rownames tab3= na

mat colnames tab3= "Cntrl Mean" "Grp2-Cntrl" "Grp2-Grp3" "Grp2-Grp4"

foreach var in $intermediate{

sum `var' if treat==0

local cntrl\_mean=r(mean)

local cntrl\_mean\_sd=r(sd)

logit `var' I.treat, cluster(village)

margins, dydx(1.treat)

local cntrl\_mean=\_b[\_cons]

local cntrl\_mean\_se=\_se[\_cons]

local grp2=el(r(table), 1, 2)

local grp2\_se=el(r(table), 2, 2)

local grp2\_p=el(r(table), 4, 2)

logit `var' Ib2.treat, cluster(village)

margins, dydx(1.treat)

local grp2\_3=el(r(table), 1, 1)

local grp2\_3\_se=el(r(table), 2, 1)

local grp2\_3\_p=el(r(table), 4, 1)

logit `var' Ib3.treat, cluster(village)

margins, dydx(1.treat)

local grp2\_4=el(r(table), 1, 1)

local grp2\_4\_se=el(r(table), 2, 1)

local grp2\_4\_p=el(r(table), 4, 1)

matrix `var' =(`cntrl\_mean',`grp2', `grp2\_3', `grp2\_4' \ `cntrl\_mean\_sd',`grp2\_se', `grp2\_3\_se', `grp2\_4\_se' \ . , `grp2\_p', `grp2\_3\_p', `grp2\_4\_p')

mat rownames `var'= `var' `var'\_se `var'\_pval

mat colnames `var'= "Cntrl Mean" "Grp2-Cntrl" "Grp2-Grp3" "Grp2-Grp4"

matrix tab3= (tab3 \ `var')

}

mat list tab3, format(%6.3f)

\*P-values for this table will be adjusted using the free step-down resampling method to control the False Discovery Rate (FDR) (Anderson, 2012)

putexcel set "tab3.csv", replace

putexcel A1 = matrix(tab3),names

\*Table 4

\*Unadjusted

sum ors if treat==0

local cntrl\_mean=r(mean)

local cntrl\_mean\_sd=r(sd)

logit ors I.treat, cluster(village)

margins, dydx(1.treat)

local N = e(N)

local grp2=el(r(table), 1, 2)

local grp2\_se=el(r(table), 2, 2)

local grp2\_p=el(r(table), 4, 2)

logit ors Ib2.treat, cluster(village)

margins, dydx(1.treat)

local grp2\_3=el(r(table), 1, 1)

local grp2\_3\_se=el(r(table), 2, 1)

local grp2\_3\_p=el(r(table), 4, 1)

logit ors Ib3.treat, cluster(village)

margins, dydx(1.treat)

local grp2\_4=el(r(table), 1, 1)

local grp2\_4\_se=el(r(table), 2, 1)

local grp2\_4\_p=el(r(table), 4, 1)

matrix ors\_unadjusted =(`grp2' \ `grp2\_se' \ `grp2\_p' \ `grp2\_3' \ `grp2\_3\_se' \ `grp2\_3\_p' \ `grp2\_4' \ `grp2\_4\_se' \ `grp2\_4\_p' \ . \ `cntrl\_mean' \ `N')

mat rownames ors\_unadjusted= "Group 2 - Control" "se" "p-val" "Group 2 - Groups 3" "se" "p-val" "Group 2 - Groups 4" "se" "p-val" "Controls" "Control Mean" "Obs"

mat colnames ors\_unadjusted= Unadjusted

mat list ors\_unadjusted, format(%6.3f)

\*merge m:1 village using "village\_covariates.dta"

/\*

global $caretaker\_controls ct\_age I.edu num\_child

global $child\_controls ch\_age I.diar\_freq blood fever

global $hh\_controls I.water I.income I.latrine

global $village\_controls chp\_visit\_vil ors\_free\_vil ors\_stored\_vil

\*/

logit ors I.treat $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2, cluster(village)

margins, dydx(1.treat)

local N = e(N)

local grp2=el(r(table), 1, 2)

local grp2\_se=el(r(table), 2, 2)

local grp2\_p=el(r(table), 4, 2)

logit ors Ib2.treat $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2, cluster(village)

margins, dydx(1.treat)

local grp2\_3=el(r(table), 1, 1)

local grp2\_3\_se=el(r(table), 2, 1)

local grp2\_3\_p=el(r(table), 4, 1)

logit ors Ib3.treat $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2, cluster(village)

margins, dydx(1.treat)

local grp2\_4=el(r(table), 1, 1)

local grp2\_4\_se=el(r(table), 2, 1)

local grp2\_4\_p=el(r(table), 4, 1)

\*matrix ors\_unadjusted =(`grp2' \ `grp2\_se' \ `grp2\_p' \ `grp2\_3' \ `grp2\_3\_se' \ `grp2\_3\_p' \ `grp2\_4' \ `grp2\_4\_se' \ `grp2\_4\_p' \ . \ `cntrl\_mean' \ `N')

matrix ors\_adjusted =( `grp2' \ `grp2\_se' \ `grp2\_p' \ `grp2\_3' \ `grp2\_3\_se' \ `grp2\_3\_p' \ `grp2\_4' \ `grp2\_4\_se' \ `grp2\_4\_p' \ . \ `cntrl\_mean' \ `N' )

mat rownames ors\_adjusted= "Group 2 - Control" "se" "p-val" "Group 2 - Groups 3" "se" "p-val" "Group 2 - Groups 4" "se" "p-val" "Controls" "Control Mean" "Obs"

mat colnames ors\_adjusted= Adjusted

mat list ors\_adjusted, format(%6.3f)

mat tab4=(ors\_unadjusted, ors\_adjusted)

mat list tab4, format(%6.3f)

putexcel set "tab4.csv", replace

putexcel A1 = matrix(tab4),names

\*Table 5

foreach var in ors\_zinc anti{

sum `var' if treat==0

local cntrl\_mean=r(mean)

local cntrl\_mean\_sd=r(sd)

logit `var' I.treat, cluster(village)

margins, dydx(1.treat)

local N = e(N)

local grp2=el(r(table), 1, 2)

local grp2\_se=el(r(table), 2, 2)

local grp2\_p=el(r(table), 4, 2)

logit `var' Ib2.treat, cluster(village)

margins, dydx(1.treat)

local grp2\_3=el(r(table), 1, 1)

local grp2\_3\_se=el(r(table), 2, 1)

local grp2\_3\_p=el(r(table), 4, 1)

logit `var' Ib3.treat, cluster(village)

margins, dydx(1.treat)

local grp2\_4=el(r(table), 1, 1)

local grp2\_4\_se=el(r(table), 2, 1)

local grp2\_4\_p=el(r(table), 4, 1)

matrix `var'\_unadjusted =( `grp2' \ `grp2\_se' \ `grp2\_p' \ `grp2\_3' \ `grp2\_3\_se' \ `grp2\_3\_p' \ `grp2\_4' \ `grp2\_4\_se' \ `grp2\_4\_p' \ . \ `cntrl\_mean' \ `N')

mat rownames `var'\_unadjusted= "Group 2 - Control" "se" "p-val" "Group 2 - Groups 3" "se" "p-val" "Group 2 - Groups 4" "se" "p-val" "Controls" "Control Mean" "Obs"

mat colnames `var'\_unadjusted= Unadjusted

\*merge m:1 village using "village\_covariates.dta"

/\*

global caretaker\_controls ct\_age I.edu num\_child

global child\_controls ch\_age I.diar\_freq

global hh\_controls I.water I.income I.latrine

global village\_controls ors\_vil I.chp\_visit\_vil I.ors\_free\_vil I.ors\_stored\_vil

\*/

logit `var' I.treat $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2, cluster(village)

margins, dydx(1.treat)

local N = e(N)

local grp2=el(r(table), 1, 2)

local grp2\_se=el(r(table), 2, 2)

local grp2\_p=el(r(table), 4, 2)

logit `var' Ib2.treat $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2, cluster(village)

margins, dydx(1.treat)

local grp2\_3=el(r(table), 1, 1)

local grp2\_3\_se=el(r(table), 2, 1)

local grp2\_3\_p=el(r(table), 4, 1)

logit `var' Ib3.treat $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2, cluster(village)

margins, dydx(1.treat)

local grp2\_4=el(r(table), 1, 1)

local grp2\_4\_se=el(r(table), 2, 1)

local grp2\_4\_p=el(r(table), 4, 1)

matrix `var'\_adjusted =(`grp2' \ `grp2\_se' \ `grp2\_p' \ `grp2\_3' \ `grp2\_3\_se' \ `grp2\_3\_p' \ `grp2\_4' \ `grp2\_4\_se' \ `grp2\_4\_p' \ . \ `cntrl\_mean' \ `N')

mat rownames `var'\_adjusted= "Group 2 - Control" "se" "p-val" "Group 2 - Groups 3" "se" "p-val" "Group 2 - Groups 4" "se" "p-val" "Controls" "Control Mean" "Obs"

mat colnames `var'\_adjusted= Adjusted

}

mat tab5=(ors\_zinc\_unadjusted, ors\_zinc\_adjusted, anti\_unadjusted, anti\_adjusted)

mat list tab5, format(%6.3f)

putexcel set "tab5.csv", replace

putexcel A1 = matrix(tab5),names

\*Table 6

\*ORS SAME DAY AS DIARRHEA EPISODE

sum ors\_sameday if treat==0

local cntrl\_mean=r(mean)

local cntrl\_mean\_sd=r(sd)

logit ors\_sameday I.treat, cluster(village)

margins, dydx(1.treat)

local N = e(N)

local grp2=el(r(table), 1, 2)

local grp2\_se=el(r(table), 2, 2)

local grp2\_p=el(r(table), 4, 2)

logit ors\_sameday Ib2.treat, cluster(village)

margins, dydx(1.treat)

local grp2\_3=el(r(table), 1, 1)

local grp2\_3\_se=el(r(table), 2, 1)

local grp2\_3\_p=el(r(table), 4, 1)

logit ors\_sameday Ib3.treat, cluster(village)

margins, dydx(1.treat)

local grp2\_4=el(r(table), 1, 1)

local grp2\_4\_se=el(r(table), 2, 1)

local grp2\_4\_p=el(r(table), 4, 1)

matrix ors\_sameday\_unadjusted =(`grp2' \ `grp2\_se' \ `grp2\_p' \ `grp2\_3' \ `grp2\_3\_se' \ `grp2\_3\_p' \ `grp2\_4' \ `grp2\_4\_se' \ `grp2\_4\_p' \ . \ `cntrl\_mean' \ `N')

mat rownames ors\_sameday\_unadjusted= "Group 2 - Control" "se" "p-val" "Group 2 - Groups 3" "se" "p-val" "Group 2 - Groups 4" "se" "p-val" "Controls" "Control Mean" "Obs"

mat colnames ors\_sameday\_unadjusted= Unadjusted

mat list ors\_sameday\_unadjusted, format(%6.3f)

\*merge m:1 village using "village\_covariates.dta"

/\*

global $caretaker\_controls ct\_age I.edu num\_child

global $child\_controls ch\_age I.diar\_freq

global $hh\_controls I.water I.income I.latrine

global $village\_controls ors\_vil chp\_visit\_vil ors\_free\_vil ors\_stored\_vil

\*/

logit ors\_sameday I.treat $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2, cluster(village)

margins, dydx(1.treat)

local N = e(N)

local grp2=el(r(table), 1, 2)

local grp2\_se=el(r(table), 2, 2)

local grp2\_p=el(r(table), 4, 2)

logit ors\_sameday Ib2.treat $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2, cluster(village)

margins, dydx(1.treat)

local grp2\_3=el(r(table), 1, 1)

local grp2\_3\_se=el(r(table), 2, 1)

local grp2\_3\_p=el(r(table), 4, 1)

logit ors\_sameday Ib3.treat $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2, cluster(village)

margins, dydx(1.treat)

local grp2\_4=el(r(table), 1, 1)

local grp2\_4\_se=el(r(table), 2, 1)

local grp2\_4\_p=el(r(table), 4, 1)

matrix ors\_sameday\_adjusted =(`grp2' \ `grp2\_se' \ `grp2\_p' \ `grp2\_3' \ `grp2\_3\_se' \ `grp2\_3\_p' \ `grp2\_4' \ `grp2\_4\_se' \ `grp2\_4\_p' \ . \ `cntrl\_mean' \ `N')

mat rownames ors\_sameday\_adjusted= "Group 2 - Control" "se" "p-val" "Group 2 - Groups 3" "se" "p-val" "Group 2 - Groups 4" "se" "p-val" "Controls" "Control Mean" "Obs"

mat colnames ors\_sameday\_adjusted= Adjusted

mat ors\_sameday= (ors\_sameday\_unadjusted,ors\_sameday\_adjusted)

\*TIME TO ORS USE (COX)

\*Changing first day to 1

replace time\_ors = time\_ors+1

stset time\_ors ors

\*Use this to include those that didn't use ORS

gen time\_ors2=time\_ors

replace time\_ors2=7 if ors==0

stcox I.treat, cluster(village)

\*Kapland Meier Graph

sts graph, by(treat) failure

\*P-values for tables 5 and 6 will be adjusted using the free step-down resampling method to control the False Discovery Rate (FDR) (Anderson, 2012)

\*Table 7. Impact of Home Storage: 2SLS

\*restricting to control and group 2

gen treat\_iv=treat if treat !=2 & treat!=3

\*creating sample

gen iv\_samp=1 if ors!=.& ors\_stored\_diar!=. & treat\_iv!=.

\*First Stage (no controls)

reg ors\_stored\_diar treat\_iv if iv\_samp==1, cluster(village)

local grp2=\_b[treat\_iv]

local grp2\_se=\_se[treat\_iv]

local N=e(N)

local F=e(F)

matrix first\_unadjusted= ( `grp2' \ `grp2\_se' \ . \ . \ . \ `F' \ `N' )

mat colnames first\_unadjusted= "First Stage"

mat rownames first\_unadjusted= "Group 2" "se" "Store" "se" "Controls" "F-State" "Obs"

\*Second Stage (no controls)

ivreg2 ors (ors\_stored\_diar=treat\_iv), first cluster(village)

local store=\_b[ors\_stored\_diar]

local store\_se=\_se[ors\_stored\_diar]

local N=e(N)

matrix second\_unadjusted= ( . \ . \ `store' \ `store\_se' \ . \ . \ `N' )

mat colnames second\_unadjusted= "Second Stage"

mat rownames second\_unadjusted= "Group 2" "se" "Store" "se" "Controls" "F-State" "Obs"

\*First Stage (controls)

reg ors\_stored\_diar treat\_iv $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2 if iv\_samp==1, cluster(village)

local grp2=\_b[treat\_iv]

local N=e(N)

local F=e(F)

matrix first\_adjusted= ( `grp2' \ `grp2\_se' \ . \ . \ . \ `F' \ `N' )

mat colnames first\_adjusted= "First Stage"

mat rownames first\_adjusted= "Group 2" "se" "Store" "se" "Controls" "F-State" "Obs"

\*Second Stage (controls)

xi: ivreg2 ors (ors\_stored\_diar=treat\_iv) $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2 , first cluster(village)

local store=\_b[ors\_stored\_diar]

local N=e(N)

matrix second\_adjusted= ( . \ . \ `store' \ `store\_se' \ . \ . \ `N' )

mat colnames second\_adjusted= "Second Stage"

mat rownames second\_adjusted= "Group 2" "se" "Store" "se" "Controls" "F-State" "Obs"

mat tab7= (first\_unadjusted , second\_unadjusted, first\_adjusted , second\_adjusted)

mat list tab7, format(%6.3f)

putexcel set "tab7.csv", replace

putexcel A1 = matrix(tab7),names

\*Table 8: Heterogeneous Treatment Effects: Access

gen dist=runiform()

reg ors I.treatment##c.dist, cluster(village)

local grp2=\_b[1.treat]

local grp2\_se=\_se[1.treat]

local grp3=\_b[2.treat]

local grp3\_se=\_se[2.treat]

local grp4=\_b[3.treat]

local grp4\_se=\_se[3.treat]

local N=e(N)

matrix dist\_unadjust= ( `grp2' \ `grp2\_se' \ `grp3' \ `grp3\_se' \ `grp4' \ `grp4\_se' \ . \ `N' )

reg ors I.treatment##c.dist $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2, cluster(village)

local grp2=\_b[1.treat]

local grp2\_se=\_se[1.treat]

local grp3=\_b[2.treat]

local grp3\_se=\_se[2.treat]

local grp4=\_b[3.treat]

local grp4\_se=\_se[3.treat]

local N=e(N)

matrix dist\_adjust= ( `grp2' \ `grp2\_se' \ `grp3' \ `grp3\_se' \ `grp4' \ `grp4\_se' \ . \ `N' )

matrix tab8= (dist\_unadjust, dist\_adjust)

mat rownames tab8= "Group 2" "se" "Group 3" "se" "Group 4" "se" "Controls" "Obs"

mat colnames tab8= "Unadjusted" "Adjusted"

putexcel set "tab8.csv", replace

putexcel A1 = matrix(tab8),names

\*Table 9: Heterogeneity by Child Severity

\*Age

gen age\_less1=ch\_age<=11

reg ors I.treatment##age\_less1, cluster(village)

local grp2=\_b[1.treat]

local grp2\_se=\_se[1.treat]

local grp3=\_b[2.treat]

local grp3\_se=\_se[2.treat]

local grp4=\_b[3.treat]

local grp4\_se=\_se[3.treat]

local age=\_b[1.age]

local age\_se=\_se[1.age]

local grp2Xage=\_b[1.treat#1.age]

local grp2Xage\_se=\_se[1.treat#1.age]

local grp3Xage=\_b[2.treat#1.age]

local grp3Xage\_se=\_se[2.treat#1.age]

local grp4Xage=\_b[3.treat#1.age]

local grp4Xage\_se=\_se[3.treat#1.age]

local N=e(N)

mat het\_age\_unadjusted=( `grp2' \ `grp2\_se' \ `grp3' \ `grp3\_se' \ `grp4' \ `grp4\_se' \ `age' \ `age\_se' \ `grp2Xage' \ `grp2Xage\_se' \ `grp3Xage' \ `grp3Xage\_se' \ `grp4Xage' \ `grp4Xage\_se' \ . \ . \ . \ . \ . \ .\ . \ .\ . \ `N' )

mat colnames het\_age\_unadjusted= "Undjusted"

mat rownames het\_age\_unadjusted= "Group 2" "se" "Group 3" "se" "Group 4" "se" "Age<1" "se" "Grp2XAge" "se" "Grp3XAge" "se" "Grp4XAge" "se" "Severe" "se" "Grp2XSevere" "se" "Grp3XSevere" "se" "Grp4XSevere" "se" "Controls" "Obs"

reg ors I.treatment##I.age\_less1 $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2, cluster(village)

local grp2=\_b[1.treat]

local grp2\_se=\_se[1.treat]

local grp3=\_b[2.treat]

local grp3\_se=\_se[2.treat]

local grp4=\_b[3.treat]

local grp4\_se=\_se[3.treat]

local age=\_b[1.age]

local age\_se=\_se[1.age]

local grp2Xage=\_b[1.treat#1.age]

local grp2Xage\_se=\_se[1.treat#1.age]

local grp3Xage=\_b[2.treat#1.age]

local grp3Xage\_se=\_se[2.treat#1.age]

local grp4Xage=\_b[3.treat#1.age]

local grp4Xage\_se=\_se[3.treat#1.age]

local N=e(N)

mat het\_age\_adjusted=( `grp2' \ `grp2\_se' \ `grp3' \ `grp3\_se' \ `grp4' \ `grp4\_se' \ `age' \ `age\_se' \ `grp2Xage' \ `grp2Xage\_se' \ `grp3Xage' \ `grp3Xage\_se' \ `grp4Xage' \ `grp4Xage\_se' \ . \ . \ . \ . \ . \ .\ . \ .\ . \ `N' )

mat colnames het\_age\_adjusted= "Adjusted"

mat rownames het\_age\_adjusted= "Group 2" "se" "Group 3" "se" "Group 4" "se" "Age<1" "se" "Grp2XAge" "se" "Grp3XAge" "se" "Grp4XAge" "se" "Severe" "se" "Grp2XSevere" "se" "Grp3XSevere" "se" "Grp4XSevere" "se" "Controls" "Obs"

\*Severity

\*Unadjusted

reg ors I.treatment##I.severe, cluster(village)

local grp2=\_b[1.treat]

local grp2\_se=\_se[1.treat]

local grp3=\_b[2.treat]

local grp3\_se=\_se[2.treat]

local grp4=\_b[3.treat]

local grp4\_se=\_se[3.treat]

local age=\_b[1.severe]

local age\_se=\_se[1.severe]

local grp2Xage=\_b[1.treat#1.severe]

local grp2Xage\_se=\_se[1.treat#1.severe]

local grp3Xage=\_b[2.treat#1.severe]

local grp3Xage\_se=\_se[2.treat#1.severe]

local grp4Xage=\_b[3.treat#1.severe]

local grp4Xage\_se=\_se[3.treat#1.severe]

local N=e(N)

mat het\_severe\_unadjusted=( `grp2' \ `grp2\_se' \ `grp3' \ `grp3\_se' \ `grp4' \ `grp4\_se' \ . \ . \ . \ . \ . \ .\ . \ .\ `age' \ `age\_se' \ `grp2Xage' \ `grp2Xage\_se' \ `grp3Xage' \ `grp3Xage\_se' \ `grp4Xage' \ `grp4Xage\_se' \ . \ `N' )

mat colnames het\_severe\_unadjusted= "Undjusted"

mat rownames het\_severe\_unadjusted= "Group 2" "se" "Group 3" "se" "Group 4" "se" "Age<1" "se" "Grp2XAge" "se" "Grp3XAge" "se" "Grp4XAge" "se" "Severe" "se" "Grp2XSevere" "se" "Grp3XSevere" "se" "Grp4XSevere" "se" "Controls" "Obs"

\*Adjusted

reg ors I.treatment##I.severe $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2, cluster(village)

local grp2=\_b[1.treat]

local grp2\_se=\_se[1.treat]

local grp3=\_b[2.treat]

local grp3\_se=\_se[2.treat]

local grp4=\_b[3.treat]

local grp4\_se=\_se[3.treat]

local age=\_b[1.severe]

local age\_se=\_se[1.severe]

local grp2Xage=\_b[1.treat#1.severe]

local grp2Xage\_se=\_se[1.treat#1.severe]

local grp3Xage=\_b[2.treat#1.severe]

local grp3Xage\_se=\_se[2.treat#1.severe]

local grp4Xage=\_b[3.treat#1.severe]

local grp4Xage\_se=\_se[3.treat#1.severe]

local N=e(N)

mat het\_severe\_adjusted=( `grp2' \ `grp2\_se' \ `grp3' \ `grp3\_se' \ `grp4' \ `grp4\_se' \ . \ . \ . \ . \ . \ .\ . \ .\ `age' \ `age\_se' \ `grp2Xage' \ `grp2Xage\_se' \ `grp3Xage' \ `grp3Xage\_se' \ `grp4Xage' \ `grp4Xage\_se' \ . \ `N' )

mat colnames het\_severe\_adjusted= "Undjusted"

mat rownames het\_severe\_adjusted= "Group 2" "se" "Group 3" "se" "Group 4" "se" "Age<1" "se" "Grp2XAge" "se" "Grp3XAge" "se" "Grp4XAge" "se" "Severe" "se" "Grp2XSevere" "se" "Grp3XSevere" "se" "Grp4XSevere" "se" "Controls" "Obs"

mat tab9= (het\_age\_unadjusted, het\_age\_adjusted, het\_severe\_unadjusted, het\_severe\_adjusted)

putexcel set "tab9.csv", replace

putexcel A1 = matrix(tab9),names

\*Table 10: Targeting ORS subsidies

\*Take-Up

gen takeup= qc8==1

\*restricting to HHs with a case of diarrhea

gen takeup2 = takeup

replace takeup2=. if q201==""

drawnorm temp

gen takeup2 = 1 if temp>0 & q201!=""

replace takeup2 = 0 if temp<=0 & q201!=""

forvalues i=0/3{

ci proportions takeup2 if treatment==`i'

local takeup\_`i'=r(proportion)

local takeup\_`i'\_ub= r(ub)

local takeup\_`i'\_lb= r(lb)

}

\*Use

forvalues i=0/3{

ci proportions ors if treatment==`i'

local use\_`i'=r(proportion)

local use\_`i'\_ub= r(ub)

local use\_`i'\_lb= r(lb)

local ratio\_`i' = `use\_`i''/`takeup\_`i''

}

mat tab10\_top = (`takeup\_0', . , `use\_0', . , `ratio\_0' \ `takeup\_0\_lb',`takeup\_0\_ub' , `use\_0\_lb', `use\_0\_ub' , . \ `takeup\_1', . , `use\_1', . , `ratio\_1' \ `takeup\_1\_lb',`takeup\_1\_ub' , `use\_1\_lb', `use\_1\_ub' , .\ `takeup\_2' , . , `use\_2' , ., `ratio\_2' \ `takeup\_2\_lb',`takeup\_2\_ub' , `use\_2\_lb', `use\_2\_ub' , . \ `takeup\_3', . , `use\_3', . , `ratio\_3' \ `takeup\_3\_lb',`takeup\_3\_ub' , `use\_3\_lb', `use\_3\_ub' , . )

mat colnames tab10\_top= "Take-Up" "." "Use" "." "Ratio"

mat rownames tab10\_top= "Control" "95% CI" "Group 2" "95% CI" "Group 3" "95% CI" "Group 4" "95% CI"

mat list tab10\_top, format(%6.3f)

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\* Regressions \*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

reg takeup2 I.treat $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2, cluster(village)

local N = e(N)

local grp2\_takeup=\_b[1.treat]

local grp2\_takeup\_ub= \_b[1.treat] + (1.96 \* \_se[1.treat])

local grp2\_takeup\_lb= \_b[1.treat] - (1.96 \* \_se[1.treat])

lincom 1.treat-2.treat

local grp2\_3\_takeup=r(estimate)

local grp2\_3\_takeup\_ub= r(estimate) + (1.96 \* r(se))

local grp2\_3\_takeup\_lb= r(estimate) - (1.96 \* r(se))

lincom 1.treat-3.treat

local grp2\_4\_takeup=r(estimate)

local grp2\_4\_takeup\_ub= r(estimate) + (1.96 \* r(se))

local grp2\_4\_takeup\_lb= r(estimate) - (1.96 \* r(se))

\*Use

reg ors I.treat $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2, cluster(village)

local N = e(N)

local grp2\_use=\_b[1.treat]

local grp2\_use\_ub= \_b[1.treat] + (1.96 \* \_se[1.treat])

local grp2\_use\_lb= \_b[1.treat] - (1.96 \* \_se[1.treat])

lincom 1.treat-2.treat

local grp2\_3\_use=r(estimate)

local grp2\_3\_use\_ub= r(estimate) + (1.96 \* r(se))

local grp2\_3\_use\_lb= r(estimate) - (1.96 \* r(se))

lincom 1.treat-3.treat

local grp2\_4\_use=r(estimate)

local grp2\_4\_use\_ub= r(estimate) + (1.96 \* r(se))

local grp2\_4\_use\_lb= r(estimate) - (1.96 \* r(se))

matrix tab10\_bottom =( `grp2\_takeup' , . , `grp2\_use' , . \ `grp2\_takeup\_lb' ,`grp2\_takeup\_ub' , `grp2\_use\_lb' , `grp2\_use\_ub' \ `grp2\_3\_takeup' , . , `grp2\_3\_use' , . \ `grp2\_3\_takeup\_lb' ,`grp2\_3\_takeup\_ub' , `grp2\_3\_use\_lb' , `grp2\_3\_use\_ub' \ `grp2\_4\_takeup' , . , `grp2\_4\_use' , . \ `grp2\_4\_takeup\_lb' ,`grp2\_4\_takeup\_ub' , `grp2\_4\_use\_lb' , `grp2\_4\_use\_ub' \ . , . , . , .\ `N' , . , `N' , . )

mat rownames tab10\_bottom= "Group 2 - Control" "95% CI" "Group 2 - Groups 3" "95% CI" "Group 2 - Groups 4" "95% CI" "Controls" "Obs"

mat colnames tab10\_bottom= "ORS Take-Up" "." "ORS Use" "."

mat list tab10\_bottom, format(%6.3f)

\*Table 11 Lost packets and Linear Probability Models

\*Lost

\*gen lost=1 if c2==1 & (ors==0|qb2!=1) & qc1==0

\*replace lost=0 if c2==1 & (ors==1 | qc1==1)

gen lost = 1 if temp>0

replace lost = 0 if temp<=0

forvalues i=0/3{

ci proportions lost if treatment==`i'

local lost\_`i'=r(proportion)

local lost\_`i'\_ub= r(ub)

local lost\_`i'\_lb= r(lb)

}

\*Use for non-Child

\*gen ors\_non\_child = 1 if q279==1 & q281>2

\*replace ors\_non\_child = 0 if q279==0

gen ors\_non\_child = 1 if temp>0

replace ors\_non\_child = 0 if temp<=0

forvalues i=0/3{

ci proportions ors\_non\_child if treatment==`i'

local nonchild\_`i'=r(proportion)

local nonchild\_`i'\_ub= r(ub)

local nonchild\_`i'\_lb= r(lb)

}

mat waste = (`lost\_0', . , `nonchild\_0', . \ `lost\_0\_lb',`lost\_0\_ub' , `nonchild\_0\_lb', `nonchild\_0\_ub' \ `lost\_1', . , `nonchild\_1', . \ `lost\_1\_lb',`lost\_1\_ub' , `nonchild\_1\_lb', `nonchild\_1\_ub' \ `lost\_2' , . , `nonchild\_2' , . \ `lost\_2\_lb',`lost\_2\_ub' , `nonchild\_2\_lb', `nonchild\_2\_ub' \ `lost\_3', . , `nonchild\_3', . \ `lost\_3\_lb',`lost\_3\_ub' , `nonchild\_3\_lb', `nonchild\_3\_ub' )

mat colnames waste= "Lost" "." "Used For Non-Child" "."

mat rownames waste= "Control" "95% CI" "Group 2" "95% CI" "Group 3" "95% CI" "Group 4" "95% CI"

mat list waste, format(%6.3f)

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\* Regressions \*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

reg lost I.treat $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2, cluster(village)

local N = e(N)

local grp2\_lost=\_b[1.treat]

local grp2\_lost\_ub= \_b[1.treat] + (1.96 \* \_se[1.treat])

local grp2\_lost\_lb= \_b[1.treat] - (1.96 \* \_se[1.treat])

lincom 1.treat-2.treat

local grp2\_3\_lost=r(estimate)

local grp2\_3\_lost\_ub= r(estimate) + (1.96 \* r(se))

local grp2\_3\_lost\_lb= r(estimate) - (1.96 \* r(se))

lincom 1.treat-3.treat

local grp2\_4\_lost=r(estimate)

local grp2\_4\_lost\_ub= r(estimate) + (1.96 \* r(se))

local grp2\_4\_lost\_lb= r(estimate) - (1.96 \* r(se))

\*Use

reg ors\_non\_child I.treat $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2, cluster(village)

local N = e(N)

local grp2\_nonchild=\_b[1.treat]

local grp2\_nonchild\_ub= \_b[1.treat] + (1.96 \* \_se[1.treat])

local grp2\_nonchild\_lb= \_b[1.treat] - (1.96 \* \_se[1.treat])

lincom 1.treat-2.treat

local grp2\_3\_nonchild=r(estimate)

local grp2\_3\_nonchild\_ub= r(estimate) + (1.96 \* r(se))

local grp2\_3\_nonchild\_lb= r(estimate) - (1.96 \* r(se))

lincom 1.treat-3.treat

local grp2\_4\_nonchild=r(estimate)

local grp2\_4\_nonchild\_ub= r(estimate) + (1.96 \* r(se))

local grp2\_4\_nonchild\_lb= r(estimate) - (1.96 \* r(se))

matrix waste\_regs =( `grp2\_lost' , . , `grp2\_nonchild' , . \ `grp2\_lost\_lb' ,`grp2\_lost\_ub' , `grp2\_nonchild\_lb' , `grp2\_nonchild\_ub' \ `grp2\_3\_lost' , . , `grp2\_3\_nonchild' , . \ `grp2\_3\_lost\_lb' ,`grp2\_3\_lost\_ub' , `grp2\_3\_nonchild\_lb' , `grp2\_3\_nonchild\_ub' \ `grp2\_4\_lost' , . , `grp2\_4\_nonchild' , . \ `grp2\_4\_lost\_lb' ,`grp2\_4\_lost\_ub' , `grp2\_4\_nonchild\_lb' , `grp2\_4\_nonchild\_ub' \ . , . , . , .\ `N' , . , `N' , . )

mat rownames waste\_regs= "Group 2 - Control" "95% CI" "Group 2 - Groups 3" "95% CI" "Group 2 - Groups 4" "95% CI" "Controls" "Obs"

mat colnames waste\_regs= "Lost" "." "Used For Non-Child" "."

mat list waste\_regs, format(%6.3f)

\*Table 12 Cost Effectiveness Analysis

\*Table 13 Packet Counting

\*Empty packet = 1 if at least 1 empty packet was found at the home

gen empty= 1 if qc20b>1 & (qb2==1)

replace empty=0 if (qc20b==0 | qc20b==.) & (qb2==1)

gen ors\_empty= ors if treatment==0 | treatment==1

replace ors\_empty = empty if treatment == 1

\*Unadjusted

reg ors\_empty I.treat, cluster(village)

local N = e(N)

local cntrl\_mean=\_b[\_cons]

local cntrl\_mean\_se=\_se[\_cons]

local grp2=\_b[1.treat]

local grp2\_se=\_se[1.treat]

local grp2\_t=\_b[1.treat]/\_se[1.treat]

matrix counting\_unadjusted = (`grp2' \ `grp2\_se' \ . \ `cntrl\_mean' \ `N')

mat rownames counting\_unadjusted = "Group 2 - Control" "se" "Controls" "Control Mean" "Obs"

mat colnames counting\_unadjusted = Unadjusted

mat list ors\_unadjusted, format(%6.3f)

\*Adjusted

reg ors\_empty I.treat $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2, cluster(village)

local N = e(N)

local cntrl\_mean=\_b[\_cons]

local cntrl\_mean\_se=\_se[\_cons]

local grp2=\_b[1.treat]

local grp2\_se=\_se[1.treat]

local grp2\_t=\_b[1.treat]/\_se[1.treat]

matrix counting\_adjusted = (`grp2' \ `grp2\_se' \ . \ `cntrl\_mean' \ `N')

mat rownames counting\_adjusted = "Group 2 - Control" "se" "Controls" "Control Mean" "Obs"

mat colnames counting\_adjusted = Adjusted

mat list counting\_adjusted, format(%6.3f)

mat tab13 = (counting\_unadjusted,counting\_adjusted)

mat list tab13, format(%6.3f)

\*Table 14 Placebo Test

destring q278, replace

gen malaria= 1 if q278==1

replace malaria= 0 if q278==0

gen uncln\_water = 1 if q284==1

replace uncln\_water = 0 if q284==0

gen bednet=1 if q287==4

replace bednet= 0 if (bednet!=1 & q287!=. & q287!=88)| q286==0

gen hand\_wash=1 if q289 >=4 & q289 !=.

replace hand\_wash=0 if q289 <4 & q289 !=.

foreach var in malaria uncln\_water bednet hand\_wash{

reg `var' I.treat $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2, cluster(village)

local N = e(N)

sum `var' if treatment==0

local cntrl\_mean=r(mean)

local grp2=\_b[1.treat]

local grp2\_se=\_se[1.treat]

local grp2\_t=\_b[1.treat]/\_se[1.treat]

lincom 1.treat-2.treat

local grp2\_3=\_b[1.treat]-\_b[2.treat]

local grp2\_3\_se=r(se)

lincom 1.treat-3.treat

local grp2\_4=\_b[1.treat]-\_b[3.treat]

local grp2\_4\_se=r(se)

matrix `var' =(`grp2' \ `grp2\_se' \ `grp2\_3' \ `grp2\_3\_se' \ `grp2\_4' \ `grp2\_4\_se' \ . \ `cntrl\_mean' \ `N')

mat rownames `var' = "Group 2 - Control" "se" "Group 2 - Groups 3" "se" "Group 2 - Groups 4" "se" "Controls" "Control Mean" "Obs"

mat colnames `var' = `var'

}

mat tab14= (malaria, uncln\_water, bednet, hand\_wash)

mat list tab14, format(%6.3f)

\*Table 15 Shorter recall

\*7-Days

\*gen diar\_7= 1 if q208b<=7

gen diar\_7= 1 temp>0 & q201!=""

replace diar\_7=. if q201==""

gen diar\_curr= 1 if q208==1

reg ors I.treat $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2 if diar\_7==1 , cluster(village)

local N = e(N)

sum ors if diar\_7==1 & treatment==0

local cntrl\_mean=r(mean)

local grp2=\_b[1.treat]

local grp2\_se=\_se[1.treat]

local grp2\_t=\_b[1.treat]/\_se[1.treat]

lincom 1.treat-2.treat

local grp2\_3=\_b[1.treat]-\_b[2.treat]

local grp2\_3\_se=r(se)

lincom 1.treat-3.treat

local grp2\_4=\_b[1.treat]-\_b[3.treat]

local grp2\_4\_se=r(se)

matrix ors\_7 =(`grp2' \ `grp2\_se' \ `grp2\_3' \ `grp2\_3\_se' \ `grp2\_4' \ `grp2\_4\_se' \ . \ `cntrl\_mean' \ `N' )

mat rownames ors\_7= "Group 2 - Control" "se" "Group 2 - Groups 3" "se" "Group 2 - Groups 4" "se" "Controls" "Control Mean" "Obs"

mat colnames ors\_7= "Last 7 Days"

\*Current

reg ors I.treat $caretaker\_controls $child\_controls $hh\_controls $village\_controls I.branch2 if diar\_curr==1 , cluster(village)

local N = e(N)

sum ors if diar\_curr==1 & treatment==0

local cntrl\_mean=r(mean)

local grp2=\_b[1.treat]

local grp2\_se=\_se[1.treat]

local grp2\_t=\_b[1.treat]/\_se[1.treat]

lincom 1.treat-2.treat

local grp2\_3=\_b[1.treat]-\_b[2.treat]

local grp2\_3\_se=r(se)

lincom 1.treat-3.treat

local grp2\_4=\_b[1.treat]-\_b[3.treat]

local grp2\_4\_se=r(se)

matrix ors\_curr =(`grp2' \ `grp2\_se' \ `grp2\_3' \ `grp2\_3\_se' \ `grp2\_4' \ `grp2\_4\_se' \ . \ `cntrl\_mean' \ `N' )

mat rownames ors\_curr= "Group 2 - Control" "se" "Group 2 - Groups 3" "se" "Group 2 - Groups 4" "se" "Controls" "Control Mean" "Obs"

mat colnames ors\_curr= "Last 7 Days"

mat tab15 = (ors\_7, ors\_curr)

mat list tab15, format(%6.3f)