

Supplementary materials

Description of variables construction

All variables used in the analyses are described in the tables below. The first column lists the variable names used in this replication exercise, as found in the associated do files. The second and third columns indicate when the variable was measured (or when its components were measured), and whether it comes from a facility-level or household-level survey. If the relevant information was not collected during one of the surveys, a "-" is included. If there is sufficient information to calculate a variable, but it is not used in any of the original analyses, the box is shaded in gray.

<u>Variables</u>	<u>Measured at Baseline</u>	<u>Measured at Endline</u>	<u>Tables Used In</u>	<u>How constructed</u>
absenceRate	-	facility	3	{number of workers from facility at baseline (hs4q1) - number of staff present at endline (hs1q1 or hs13q7) - number of staff out for outreach at endline (hs5q8)}/number of workers from facility at baseline
avgAdultOP	facility	facility	1, 5, 7	BL: facility-level average of hs8q3-hs8q4 (monthly counts of total number of outpatients in daily patient records - total number of outpatients younger than 5 years old in daily patient records; over Sept 2003-Nov 2003) EL: facility-level average of hs7q3c, hs7q3e, hs7q3g, hs7q3i, and hs7q3k (monthly counts of outpatients 5 years and older from daily patient records for March, May, July, September, November 2005)
avgAdultOPStd	facility	facility	7	same as avgAdultOP, but standardised by standard deviation in control group
avgANC	-	facility	5	facility-level average of hs7q6b, hs7q6c, hs7q6d, hs7q6e, hs7q6f, hs7q6g, hs7q6h, hs7q6i, hs7q6j, and hs7q6k (monthly counts of antenatal care patients, including reattendance, from antenatal care register for February - November 2005)
avgChlRecd	facility	facility	1	facility-level average of number of tablets received of chloroquine (measured in tablets) over Jan-Dec 2003 (section 5)
avgCotRecd	facility	facility	1	facility-level average of number of tablets received of cotrimoxazole (measured in tablets) over Jan-Dec 2003 (section 5)

<u>Variables</u>	<u>Measured at Baseline</u>	<u>Measured at Endline</u>	<u>Tables Used In</u>	<u>How constructed</u>
avgDel	facility	facility	1, 5	BL: facility-level average of hs8q5 (monthly counts of total number of deliveries from maternity unit records for Sept 2003-Nov 2003) EL: facility-level average of hs7q5b, hs7q5c, hs7q5d, hs7q5e, hs7q5f, hs7q5g, hs7q5h, hs7q5i, hs7q5j, and hs7q5k (monthly counts of deliveries from maternity unit records for February - November 2005)
avgDeliveryCharge	household	household	1	s7q19 ("Did they charge you for delivery?") = "yes"
avgDrugCharge	household	household	1	s5q3b1 ("At health facility "X", what did you have to pay for and how much did you pay?") = "drugs" and s4q2 ("Were you (child) given any drug or injection at the health facility?")="drugs (tablets) only" or "drugs (syrups) only" or "both drugs (tablets and/or syrups) and injection" or "other e.g. eye drops, ointments"
avgEryRecd	facility	facility	1	facility-level average of number of tablets received of erythromycin (measured in tablets) over Jan-Dec 2003 (section 5)
avgFP	-	facility	5	facility-level average of hs7q7b, hs7q7c, hs7q7d, hs7q7e, hs7q7f, hs7q7g, hs7q7h, hs7q7i, hs7q7j, and hs7q7k (monthly counts of people seeking family planning services, including reattendance, from family planning register for February - November 2005)
avgGenTxCharge	household	household	1	s5q3c1 ("At health facility "X", what did you have to pay for and how much did you pay?") = "general treatment" and s2q10 ("What was the purpose of the visit/what symptoms did you have?") = "fever" or "vomiting" or "diarrhea" or "cough" or "loss of appetite" or "joint pains" or "sore throat" or "headache" or "stomach pain" or "bleeding" or "weakness, tiredness" or "tooth ache" or "pneumonia" [i.e., excluding visits for vaccination, immunization, delivery, supplementary nutrition, condoms, antenatal service, family planning, and other]
avgInjectionCharge	household	household	1	s5q3g1 ("At health facility "X", what did you have to pay for and how much did you pay?") = "injection" and s4q2 ("Were you (child) given any drug or injection at the health facility?")="injection only" or "both drugs (tablets and/or syrups) and injection"
avgMebRecd	facility	facility	1	facility-level average of number of tablets received of mebendazole (measured in tablets) over Jan-Dec 2003 (section 5)
avgOutreach	facility	facility	13	BL: facility-level average of number of outreach visits done by the facility between September and December 2003 (hs3q6) EL: facility-level average of number of outreach visits done by the facility between September and December 2005 (hs4q16c, hs4q16d, hs4q16e, hs4q16f)
avgQuiRecd	facility	facility	1	facility-level average of number of tablets received of quinine (measured in tablets) over Jan-Dec 2003 (section 5)

<u>Variables</u>	<u>Measured at Baseline</u>	<u>Measured at Endline</u>	<u>Tables Used In</u>	<u>How constructed</u>
awareOfCBM	-	household	13	Indicator for whether the household is aware of the CBM program (s6q19)
BCGImm	household	household	4, 9-11	indicator for s8q11e/s8q10e ("How many times has [each child under 5 years] been immunized with BCG?") > 0; missing if "don't know"
CBOBefore	other	-	7, 12	indicator for whether one of the implementing CBO's was present in the community prior to the intervention; given by the authors (cbo_present_before)
childUnder5InHH	household	household	8	s8q1 ("Does this household have any children under 5 years old?") = "yes"
daysNoPwr2004	facility	-	1	HF2004 hs2q17c ("How many days last month did you experience power shortages that lasted longer than 30 minutes?") or if hs2q16 ("Does this health facility have electricity?")="no", daysNoPwr2004=31
death	-	household	6, 12	using s8q3 ("In this household, has any child under 5 years old died since January 2005?" = "yes") and s8q3b ("At what age did the child die?"), identified each child death and the cohort of the child who had died
deathRatePer1000	-	household	6, 7, 12	using immunization records, total number of children currently living under five years (at time of endline, age = s8q10a) are counted and summed, by facility-level cohort; using s8q3 ("In this household, has any child under 5 years old died since January 2005?" = "yes") and s8q3b ("At what age did the child die?"), total number of children who were in each age range and died in the past year are counted and summed, by facility-level cohort; facility-level estimates of mortality are calculated for each cohort (e.g., facility-level mortality rate for children under one = {number of children in that facility's catchment area who died in the past year and were under one at the time of death / (number of children in that facility's catchment area who died in the past year and were under one at the time of death + number of children in that facility's catchment area who are currently alive and under one year)}) [note: while immunization data were collected at baseline, no question about deaths in the past year were asked]
deathRatePer1000Std	-	household	7	same as deathRatePer1000, but standardised by standard deviation in control group
discFacLCMtgs	-	household	2	s6q24 ("In the LC meetings, do you discuss the functioning of health facility "X"?") = "yes"
distNearestLC1	facility	-	1	hs2q24g ("Distance to village headquarters (LC1)") in km
distNearestPubProv	facility	-	1	hs2q27e ("How far away (in km) from here are the closest health centers and hospitals?"): if previous is missing: hs2q26e ("How far away (in km) from here are the closest dispensaries/DMUs?"); if both previous are missing hs2q28e ("How far away (in km) from here are the closest clinics?")
DPTAppropriate	household	household	9	= DPTImm if child is > 2 months, = DPTImmlnf if child is < 3 months

<u>Variables</u>	<u>Measured at Baseline</u>	<u>Measured at Endline</u>	<u>Tables Used In</u>	<u>How constructed</u>
DPTImm	household	household	4, 10-11	indicator for s8q11d/s8q10d ("How many times has [each child under 5 years] been immunized with DPT?") > 2; missing if "don't know"
DPTImmInfant	household	household	4, 10-11	indicator for s8q11d/s8q10d ("How many times has [each child under 5 years] been immunized with DPT?") > 0; missing if "don't know"
drankSafely2004	facility	-	1	HF2004 hs2q14 ("Can you drink safely from your source of water today?") = "yes"
equipmentUsed	household	household	1, 3	BL: s3q8 ("Did the staff use any equipment when examining you (child)?") = "yes" EL: s3q9 ("Did the staff use any equipment when examining you (child)?") = "yes"
floorCondition	facility	facility	3	4 - hs13q15 ("What was the condition of the floor?") 1 = "clean", 2 = "fairly clean", 3 = "dirty", 4 = "very dirty" [BL hs12q16]
freeToExpress	household	household	1	s3q6 ("Did you feel free to express yourself to the person who examined you (child)?") 1="no, not at all", 2="a bit, but the person was impatient", 3="with some difficulty", 4="with no difficulty, the person examining me encouraged me to express my problem"
furnitureCondition	facility	facility	3	4 - hs13q17 ("What was the condition of the furniture?") 1 = "clean", 2 = "fairly clean", 3 = "dirty", 4 = "very dirty" [BL hs12q18]
healthInfo	-	household	3	s6q9 ("Do you receive information about the importance of visiting health facility "X" for medical treatment and the dangers of self-treatment?") = "yes"
hhs	other	-	1	number of households in catchment area; given variable, from authors: "data was collected from UBOS maps and from the 5 km radius of the health facility"
hhsPerVillage	other	-	1	divided number of households in catchment area by number of villages in catchment area; from authors: "data was collected from UBOS maps and from the 5 km radius of the health facility"
impOfFP	-	household	3	s6q10 ("Do you receive information about the importance of visiting health facility "X" for family planning services?") = "yes"
informAbtDrugDel	household	household	1	s6q1 ("Do you know WHEN health facility "X" receives drugs?")="yes"
lowQualRoof	household	household	8	s9q9 ("Which material is the roof of the respondent's house made of?") = "thatched" [exclude "other" responses]
lowQualWalls	household	household	8	s9q8 ("Which material are the walls of the respondent's house made of?") = "mud and poles" or "un-burnt bricks" [exclude "other" responses]
measlesImm	household	household	4, 9	indicator for s8q11b/s8q10b ("How many times has [each child under 5 years] been immunized for measles?") > 0; missing if "don't know"
monitoringIndex	-	facility	7	first component of pca analysis using suggestionBox, numWaitingCards, posterFreeServices, posterPtRts, discFacLCMtgs, and recdInfoAbtHUMC
newspaper	facility	-	1	hs2q21 ("Do the staff have access to a newspaper in health facility?")="yes"

<u>Variables</u>	<u>Measured at Baseline</u>	<u>Measured at Endline</u>	<u>Tables Used In</u>	<u>How constructed</u>
NGOPct	household	household	1	s1q14b-s1q14i ("During the period July 2003 until today, who in your household, where and how many times did he/she seek care?"): total visits to each type of provider are summed at the household level for all members who were at least 15 years old (i.e., exclude visits for household members < 15 years); NGO facility percentage was identified by dividing total household-level visits to an NGO facility by total household-level visits to any provider
numAdults	household	household	8	s1q3 ("How many adults live in this household (greater than or equal to 15 years old)?")
numBirthsOverall	-	household	6, 12	using immunization records, total number of children currently under one year (at time of endline, age = s8q10a) are counted and summed with count of number of children who died in past year (s8q3, "In this household, has any child under 5 years old died since January 2005?" = "yes") and were less than one year when they died (s8q3b, "At what age did the child die?")
numChildrenUnder5	household	household	8	s8q2 ("How many children in this household are under 5 years old?")
numWaitingCards	-	facility	2	hs12q9 ("At the health facility, do you see that patients have numbered waiting cards in the waiting room?") = "yes"
otherGovtPct	household	household	1	s1q14b-s1q14i ("During the period July 2003 until today, who in your household, where and how many times did he/she seek care?"): total visits to each type of provider are summed at the household level for all members who were at least 15 years old (i.e., exclude visits for household members < 15 years); other government facility percentage was identified by dividing total household-level visits to another government facility by total household-level visits to any provider
otherHFPct	household	household	1	s1q14b-s1q14i ("During the period July 2003 until today, who in your household, where and how many times did he/she seek care?"): total visits to each type of provider are summed at the household level for all members who were at least 15 years old (i.e., exclude visits for household members < 15 years); other health facility percentage was identified by dividing total household-level visits to another facility by total household-level visits to any provider
paidAttn	household	household	1	s3q5 ("Did you feel that the person who examined you (child) paid attention to your problem?") 1="no, the person was not interested", 2="yes, the person was half attentive", 3="yes", 4="yes, the person was interested and asked questions"

<u>Variables</u>	<u>Measured at Baseline</u>	<u>Measured at Endline</u>	<u>Tables Used In</u>	<u>How constructed</u>
patRightsIndex	-	facility	7	percent known of five patient rights, by the respondent: hs3q18a ("free health care"), hs3q18b ("should be attended to within one hour"), hs3q18c ("right to confidential treatment, i.e., the staff should not be talking about patients' health or illness with other people"), hs3q18d ("polite treatment to the patient and its attendants, without discrimination, i.e. on first come-first serve basis"), and hs3q18e ("right to receive information on the drugs received at the health facility and how they are utilized")
pipewater	facility	facility	1	hs2q13a ("What is the main source of drinking water for this health facility during the rainy season?")="pipewater" or hs2q13c ("What is the main source of drinking water for this health facility during the dry season?")="pipewater"
polioAppropriate	household	household	9	= polioImm if child is > 2 months, = polioImmInf if child is < 3 months
polioImm	household	household	4, 10-11	indicator for s8q11c/s8q10c ("How many times has [each child under 5 years] been immunized for polio?") > 2; missing if "don't know"
polioImmInfant	household	household	4, 10-11	indicator for s8q11c/s8q10c ("How many times has [each child under 5 years] been immunized for polio?") > 0; missing if "don't know"
polite	household	household	1	s3q4 ("Did the person who examined you (child) behave politely towards you?") 1="no, he/she was rude", 2="no, he/she was indifferent, did not care", 3="yes, they were polite", 4="yes, they were extremely polite"
posterFreeServices	-	facility	2	hs12q5 ("In the facility, do you see information posted that services are free?") = "yes"
posterPtRts	-	facility	2	hs12q4 ("In the facility, do you see information posted on 'patients rights and obligations?") = "yes"
pregnant	household	household	6, 12	BL: s7q1 ("Has anyone in your household been pregnant since January 2003?") = "yes" EL: s7q1 ("Has anyone in your household been pregnant since January 2005?") = "yes"
projectFacilityPct	household	household	1, 5	BL: s1q14b-s1q14i ("During the period July 2003 until today, who in your household, where and how many times did he/she seek care?"): total visits to each type of provider are summed at the household level for all members who were at least 15 years old (i.e., exclude visits for household members < 15 years); project facility percentage was identified by dividing total household-level visits to a project facility by total household-level visits to any provider EL: s1q11b-s1q11i ("During the period January 2005 until today, who in your household, where and how many times did he/she seek care?"): total visits to each type of provider are summed at the household level for all members who were at least 15 years old (i.e., exclude visits for household members < 15 years); project facility percentage was identified by dividing total household-level visits to a project facility by total household-level visits to any provider

<u>Variables</u>	<u>Measured at Baseline</u>	<u>Measured at Endline</u>	<u>Tables Used In</u>	<u>How constructed</u>
pvtForProfPct	household	household	1	s1q14b-s1q14i ("During the period July 2003 until today, who in your household, where and how many times did he/she seek care?"): total visits to each type of provider are summed at the household level for all members who were at least 15 years old (i.e., exclude visits for household members < 15 years); private-for-profit facility percentage was identified by dividing total household-level visits to a private-for-profit facility by total household-level visits to any provider
radio	facility	-	1	hs2q19 ("Does the staff have access to radio at the health facility?")="yes"
recdInfoAbtHUMC	-	household	2	s6q27 ("Since January 2005, have you received information about the Health Unit Management Committee and their roles and responsibilities?") = "yes"
secondaryEdu	household	household	8	s9q6 ("What is your [respondent, i.e., person who went to a project health facility most recently] highest level of education?") = "secondary school" [exclude "other" responses]
selfTxPct	household	household	1	s1q14b-s1q14i ("During the period July 2003 until today, who in your household, where and how many times did he/she seek care?"): total visits to each type of provider are summed at the household level for all members who were at least 15 years old (i.e., exclude visits for household members < 15 years); self treatment percentage was identified by dividing total household-level episodes of self treatment by total household-level visits to any provider
sepMatUnit	facility	-	1	hs2q1 ("Is this facility a dispensary or a DMU?")="dispensary with maternity unit (DMU)"
smell	facility	facility	3	4 - hs13q18 ("What was the smell in the health facility?") 1 = "clean, disinfected", 2 = "fairly clean", 3 = "unclean, dirty", 4 = "very unclean, musty, dirty" [BL hs12q19]
stockouts	facility	facility	3	facility-level average of average monthly stockouts of erythromycin (hs8q1b1 - hs8q1b9) cotrimoxazole/septrin (hs8q3b1 - hs8q3b9), and mebendazole (hs8q5b1 - hs8q5b9), over April 2005 - December 2005 [note: data are also available on chloroquine and quinine, but these are excluded from this measure; if included, number of facilities with data falls from 42 to 36; coefficient estimate in main regression in Table 3 drops to -0.10 (p=0.17); missing data: erythromycin: 8/50; chloroquine: 1/50; cotrimoxazole 0/50; quinine: 9/50; mebendazole: 0/50]
STTHPct	household	household	5	s1q14b-s1q14i ("During the period July 2003 until today, who in your household, where and how many times did he/she seek care?"): total visits to each type of provider are summed at the household level for all members who were at least 15 years old (i.e., exclude visits for household members < 15 years); self treatment/traditional healer percentage was identified by dividing total household-level occurrences of self treatment plus visits to a traditional healer by total household-level visits to any provider
suggestionBox	-	facility	2	hs12q10 ("At the health facility, do you see a suggestion box?") = "yes"

<u>Variables</u>	<u>Measured at Baseline</u>	<u>Measured at Endline</u>	<u>Tables Used In</u>	<u>How constructed</u>
totalALevel	facility	-	1	count total number of staff in facility with hs4q6a ("Highest level of education")="University" or "A-level"
totalBelowALevel	facility	-	1	count total number of staff in facility with hs4q6a ("Highest level of education")="O-level" or "Primary school" or "nursing school" or "institution" or "training in medical facility" or "none"
tradHealerPct	household	household	1	s1q14b-s1q14i ("During the period July 2003 until today, who in your household, where and how many times did he/she seek care?"): total visits to each type of provider are summed at the household level for all members who were at least 15 years old (i.e., exclude visits for household members < 15 years); traditional healer percentage was identified by dividing total household-level visits to a traditional healer by total household-level visits to any provider
village1	other	-	1	number of villages in first strata around the health facility; given variable, from authors: "data was collected from UBOS maps and from the 5 km radius of the health facility"
village3	other	-	1	number of villages in third strata around the health facility; given variable, from authors: "data was collected from UBOS maps and from the 5 km radius of the health facility"
villagen	other	-	1	number of villages in catchment area; given variable, from authors: "data was collected from UBOS maps and from the 5 km radius of the health facility"
vitASupp	household	household	4, 9-11	s8q11f/s8q10f ("How many times has [each child under 5 years] received a vitamin A supplement?"); missing if "don't know"
vitASupplInfant	household	household	4, 10-11	indicator for s8q11f/s8q10f ("How many times has [each child under 5 years] received a vitamin A supplement?") > 0; missing if "don't know"
waitingTime	household	household	1, 3	BL: time left the HF (s2q9) - time arrived at the HF (s2q3); drop if date of departure is different day from arrival or if departure time is prior to arrival time EL: time left the HF (s2q11) - time arrived at the HF (s2q4); drop if date of departure is different day from arrival or if departure time is prior to arrival time
wallCondition	facility	facility	3	4 - hs13q16 ("What was the condition of the walls?") 1 = "clean", 2 = "fairly clean", 3 = "dirty", 4 = "very dirty" [BL hs12q17]
WAZ	-	household	6, 12	s8q12b ("weight"), s8q12a ("age in months"), gender for children under 18 months excluding observations with recorded weight above the 90th percentile in the growth chart reported in Cortinovis <i>et al.</i> (1997)

Do files

Merge and prepare baseline household data

```
cd "...\\Data"

* Treatment Status
use "raw\\treatmentstatus.dta", clear
gen control = 1 - treatment
sort hfcode
save "Modified\\HH2004.dta", replace

* Utilization Pattern
* each row is a household
use "raw\\crc2004_b.dta", clear
keep hhcode hfcode s1q14a_01-s1q14i_15 //each row is a household

*make each row a household member (up to 15)
reshape long s1q14a s1q14b s1q14c s1q14d s1q14e s1q14f s1q14g s1q14h s1q14i,
///
i(hhcode) j(ID _01 _02 _03 _04 _05 _06 _07 _08 _09 _10 _11 _12 _13 _14
_15)
drop s1code_02-s1code_15
rename s1q14a atLeast15Yrs
egen totalHFVisits = rowtotal(s1q14b-s1q14i) if atLeast15Yrs==1
gen projectFacility = s1q14b if atLeast15Yrs==1
gen NGO = s1q14c if atLeast15Yrs==1
gen pvtForProf = s1q14d if atLeast15Yrs==1
gen tradHealer = s1q14e if atLeast15Yrs==1
gen CHW = s1q14f if atLeast15Yrs==1 //Not used in Table 1 (but is in the
measure of "total" for denominator)
gen selfTx = s1q14g if atLeast15Yrs==1
gen otherGovt = s1q14h if atLeast15Yrs==1
gen otherHF = s1q14i if atLeast15Yrs==1
collapse (sum) totalHFVisits projectFacility NGO pvtForProf ///
tradHealer CHW selfTx otherGovt otherHF (mean) hfcode, by(hhcode)

*generating measures of utilization as pctage of total health provider visits
by HH
gen projectFacilityPct = projectFacility/totalHFVisits
gen NGOPct = NGO/totalHFVisits
gen pvtForProfPct = pvtForProf/totalHFVisits
gen tradHealerPct = tradHealer/totalHFVisits
gen CHWPct = CHW/totalHFVisits
gen selfTxPct = selfTx/totalHFVisits
gen STTHPct = (selfTx + tradHealer)/totalHFVisits
gen otherGovtPct = otherGovt/totalHFVisits
gen otherHFPct = otherHF/totalHFVisits

sort hfcode hhcode
merge m:1 hfcode using "Modified\\HH2004.dta"
capture drop _merge
save "Modified\\HH2004.dta", replace
```

```

* Rest of HH Data
  use "raw\crc2004_a.dta", clear
  sort hhcode
  merge 1:1 hhcode using "Modified\HH2004.dta"
  capture drop _merge
  save "Modified\HH2004.dta", replace

  use "raw\crc2004_b.dta", clear
  sort hhcode
  merge 1:1 hhcode using "Modified\HH2004.dta"
  capture drop _merge
  save "Modified\HH2004.dta", replace

*** GENERATING VARIABLES THAT DON'T REQUIRE RESHAPING
  use "Modified\HH2004.dta", clear

* Other Variables of Interest

  * Waiting time = diff btw time person left facility and time arrived at
  facility
    * minus examination time //Table A.1
    * examination time
    gen examinationTime=s3q7

    * time visited the HF: s2q3
    tostring s2q3, generate(visitStartString)
    gen visitStartStringLength = length(visitStartString)
    replace visitStartStringLength=. if visitStartStringLength==1

    *if length is 3
    gen visitStartHour = substr(visitStartString, 1, 1) if
visitStartStringLength==3
    gen visitStartMin = substr(visitStartString, 2, 2) if
visitStartStringLength==3

    *if length is 4
    replace visitStartHour = substr(visitStartString, 1, 2) if
visitStartStringLength==4
    replace visitStartMin = substr(visitStartString, 3, 2) if
visitStartStringLength==4
    destring visitStartHour visitStartMin, replace

    * time left the HF: s2q9
    *note this is coded as 2500 if left another day-they just drop
these people out
    tostring s2q9, generate(visitEndString)
    gen visitEndStringLength = length(visitEndString)
    replace visitEndStringLength=. if visitEndStringLength==1
    *if length is 3
    gen visitEndHour = substr(visitEndString, 1, 1) if
visitEndStringLength==3
    gen visitEndMin = substr(visitEndString, 2, 2) if
visitEndStringLength==3

```

```

        *if length is 4
            replace visitEndHour = substr(visitEndString, 1, 2) if
visitEndStringLength==4
            replace visitEndMin = substr(visitEndString, 3, 2) if
visitEndStringLength==4
            destring visitEndHour visitEndMin, replace

            gen lengthOfVisitHr = visitEndHour - visitStartHour
            gen lengthOfVisitMin = visitEndMin - visitStartMin
            gen waitingTime = 60*lengthOfVisitHr + lengthOfVisitMin -
examinationTime
            replace waitingTime=. if s2q9==2500 //original authors drop out anyone
who says they left another day
            replace waitingTime=. if waitingTime<0
                tab waitingTime, m

gen equipmentUsed = . //Table 1/Table A1
    replace equipmentUsed = 1 if s3q8==1
    replace equipmentUsed = 0 if s3q8==2
gen polite=s3q4 //Table 1/Table A1
gen paidAttn=s3q5 //Table 1/Table A1
gen freeToExpress=s3q6 //Table 1/Table A1
gen informAbtDrugDel = s6q1==1 //Table 1/Table A1
    replace informAbtDrugDel = . if s6q1==.

** USER CHARGES
gen recdDrugs = (s4q2==1 | s4q2==2 | s4q2==4 | s4q2==5)
    replace recdDrugs = . if s4q2==.
gen drugsCharge = s5q3b1==1
    replace drugsCharge=. if s5q3b1==.
    replace drugsCharge=0 if s5q1==2 //makes denominator too big, but ok
based on how averaged
bysort hfcode: egen avgDrugCharge = mean(drugsCharge) if recdDrugs==1

gen recdGenTx = (s2q10a==1 | s2q10b==1 | s2q10c==1 | s2q10e==1 | s2q10f==1
///
    | s2q10g==1 | s2q10h==1 | s2q10i==1 | s2q10j==1 | s2q10k==1 | s2q10l==1
///
    | s2q10m==1 | s2q10n==1)

* Updated genTxCharge 9/6/15
gen genTxCharge = s5q3c1==1
    replace genTxCharge=. if s5q3c1==.
    replace genTxCharge=1 if s5q3a1==1
    replace genTxCharge=0 if s5q1==2
bysort hfcode: egen avgGenTxCharge = mean(genTxCharge) if recdGenTx==1

gen recdInjection = (s4q2==3 | s4q2==4)
    replace recdInjection = . if s4q2==.
gen injectionCharge = s5q3g1==1
    replace injectionCharge=. if s5q3g1==.
    replace injectionCharge=0 if s5q1==2
bysort hfcode: egen avgInjectionCharge = mean(injectionCharge) if
recdInjection==1

```

```

gen deliveryCharge = s7q19==1
    replace deliveryCharge=. if s7q19==.
bysort hhcode: egen avgDeliveryCharge = mean(deliveryCharge)

save "Modified\HH2004.dta", replace

** IMMUNIZATIONS
use "Modified\HH2004.dta", clear
keep hhcode hfcode treatment s8code_01 s8q11a_01 s8q11b_01 s8q11c_01 s8q11d_01
s8q11e_01 s8q11f_01 s8q11g_01 ///
    s8code_02 s8q11a_02 s8q11b_02 s8q11c_02 s8q11d_02 s8q11e_02 s8q11f_02
s8q11g_02 ///
    s8code_03 s8q11a_03 s8q11b_03 s8q11c_03 s8q11d_03 s8q11e_03 s8q11f_03
s8q11g_03 ///
    s8code_04 s8q11a_04 s8q11b_04 s8q11c_04 s8q11d_04 s8q11e_04 s8q11f_04
s8q11g_04 ///
    s8code_05 s8q11a_05 s8q11b_05 s8q11c_05 s8q11d_05 s8q11e_05 s8q11f_05
s8q11g_05 ///
    s8code_06 s8q11a_06 s8q11b_06 s8q11c_06 s8q11d_06 s8q11e_06 s8q11f_06
s8q11g_06 ///
    s8code_07 s8q11a_07 s8q11b_07 s8q11c_07 s8q11d_07 s8q11e_07 s8q11f_07
s8q11g_07 ///
    s8code_08 s8q11a_08 s8q11b_08 s8q11c_08 s8q11d_08 s8q11e_08 s8q11f_08
s8q11g_08 // note there are few more rows, but no obs

reshape long s8code_0 s8q11a_0 s8q11b_0 s8q11c_0 s8q11d_0 s8q11e_0 s8q11f_0
s8q11g_0, i(hhcode) j(childNum)

gen ageInMonths = s8q11a
keep if ageInMonths!=.

rename s8q11a_0 s8q11a
rename s8q11b_0 s8q11b
rename s8q11c_0 s8q11c
rename s8q11d_0 s8q11d
rename s8q11e_0 s8q11e
rename s8q11f_0 s8q11f
rename s8q11g_0 s8q11g

gen measlesImm = s8q11b>=1
    replace measlesImm=. if s8q11b>2

gen polioImm = s8q11c>=3
    replace polioImm=. if s8q11c>4
gen polioImmInfant = s8q11c>0

gen DPTImm = s8q11d>=3
    replace DPTImm=. if s8q11d>3
gen DPTImmInfant = s8q11d>=1
    replace DPTImmInfant=. if s8q11d>3

gen BCGImm = s8q11e>=1
    replace BCGImm=. if s8q11e==88

```

```
gen vitASupp = s8q11f if s8q11f!=88
gen vitASuppInfant = s8q11f>0
    replace vitASuppInfant=. if s8q11f==88

save "Modified/Immunizations2004_wTx.dta", replace
```

Merge and prepare endline household data

```
cd "...\\Data"
```

```
* Treatment Status
  use "raw\\treatmentstatus.dta", clear
  gen control = 1 - treatment
  sort hfcode
  save "Modified\\HH2006.dta", replace

* 2006 Household Data
  use "raw\\crc2006.dta", clear

  * For use in Table 2
  gen discFacLCMtgs = s6q24==1
  replace discFacLCMtgs=. if s6q24==.
  gen recdInfoAbtHUMC = s6q27==1

  * For use in Table 3
  * time of arrival and departure
  tostring s2q4 s2q11, replace
  rename s2q4 visitStartString
  rename s2q11 visitEndString
  rename s3q8 visitLength

  replace visitStartString="" if visitStartString=="."
  replace visitEndString="" if visitEndString=="."

  gen visitStartStringLength=length(visitStartString)
  gen visitEndStringLength=length(visitEndString)

  replace visitStartString= visitStartString+"00" if visitStartStringLength==1
  replace visitStartStringLength=length(visitStartString)

  gen visitStartHourString=substr(visitStartString, 1,visitStartStringLength-2)
  gen visitStartMinString=substr(visitStartString,-2,.)
  gen visitEndHourString=substr(visitEndString, 1,visitEndStringLength-2)
  gen visitEndMinString=substr(visitEndString,-2,.)

  destring visitStartString visitEndString visitStartHourString
  visitEndHourString visitStartMinString visitEndMinString, ///
    generate(visitStartNum visitEndNum visitStartHourNum visitEndHourNum
  visitStartMinNum visitEndMinNum)

  gen minDiffInHours = (visitEndHourNum-visitStartHourNum)*60
  gen minDiffInMin = visitEndMinNum - visitStartMinNum
  gen totalTime = minDiffInHours+minDiffInMin if visitEndNum<2500 // 2500 = more
than one day
  replace totalTime = . if visitEndNum==2500
  gen waitingTime = totalTime - visitLength
  replace waitingTime=. if waitingTime<0 // 12 changes
  sum waitingTime

  gen equipmentUsed=.
```

```
replace equipmentUsed=1 if s3q9==1
replace equipmentUsed=0 if s3q9==2

* For Table 3
gen healthInfo = s6q9==1
gen impOfFP = s6q10==1

sort hfcode hhcode
merge m:1 hfcode using "Modified\HH2006.dta"
capture drop _merge
save "Modified\HH2006.dta", replace

* For Table 4 - IMMUNIZATIONS - SEPARATE FILE; determinations of sufficient
immunizations follow authors

* To get info on HF
use "raw/crc2006.dta", clear
keep hhcode hfcode
sort hhcode

* Adding in relevant data
merge 1:m hhcode using "raw/crc2006_s8q10.dta"
drop if _merge!=3
capture drop _merge

gen measlesImm = s8q10b>=1
replace measlesImm=. if s8q10b>2

gen polioImm = s8q10c>=3
replace polioImm=. if s8q10c>4
gen polioImmInfant = s8q10c>0
replace polioImmInfant=. if s8q10c>3
*replace polioImmInfant=0 if s8q10c==4 // need this line in order
to get numbers to match orig authors,
* doesnt exactly make sense, but doesnt matter since these
kids are all older and will drop out anyway

gen DPTImm = s8q10d>=3
replace DPTImm=. if s8q10d>3
gen DPTImmInfant = s8q10d>=1
replace DPTImmInfant=. if s8q10d>3
*replace DPTImmInfant=0 if s8q10d==3 // need this line in order
to get numbers to match orig authors,
* doesnt exactly make sense, but doesnt matter since these
kids are all older and will drop out anyway

gen BCGImm = s8q10e>=1
replace BCGImm=. if s8q10e==88

gen vitASupp = s8q10f if s8q10f!=88
gen vitASuppInfant = s8q10f>0
```

```

        replace vitASuppInfant=. if s8q10f==88

gen ageInMonths = s8q10a
save "Modified\Immunizations2006.dta", replace

* For Table 5 - UTILIZATION

    * To get info on HF
    use "raw/crc2006.dta", clear
    keep hhcode hfcode
    sort hhcode

    * Adding in relevant data (each row is a household member)
    merge 1:m hhcode using "raw/crc2006_s1q11.dta" //note one household from
main data is not merged
    drop if _merge!=3
    capture drop _merge
    rename s1q11a atLeast15Yrs
    recode s1q11b s1q11c s1q11d s1q11e s1q11f s1q11g s1q11h s1q11i (88=0)

    egen totalHFVisits = rowtotal(s1q11b - s1q11i) if atLeast15Yrs==1
        replace totalHFVisits = totalHFVisits - s1q11f
    gen projectFacility = s1q11b if atLeast15Yrs==1
    gen selfTx = s1q11g if atLeast15Yrs==1
    gen tradHealer = s1q11e if atLeast15Yrs==1
    gen STTH = s1q11g + s1q11e if atLeast15Yrs==1

    collapse (sum) totalHFVisits projectFacility selfTx tradHealer STTH ///
        (mean) hfcode, by(hhcode)

    gen projectFacilityPct = projectFacility/totalHFVisits
    gen tradHealerPct = tradHealer/totalHFVisits
    gen selfTxPct = selfTx/totalHFVisits
    gen STTHPct = (selfTx + tradHealer)/totalHFVisits

    save "Modified\Utilization2006.dta", replace

* For Table 6, Col 3 - U5 MORTALITY

    *Live children and their ages

        * to match hh's to hf's
        use "raw/crc2006.dta", clear
        keep hhcode hfcode
        sort hhcode
        save "temp/HH_HF.dta", replace

        * adding in immunization data that involves ages of live
children - each row is a child
        merge 1:m hhcode using "raw/crc2006_s8q10.dta" //note this
only covers households with children under 5
        keep hhcode hfcode s8code1 s8q10a
        rename s8code1 liveChildLineNum
        rename s8q10a ageInMonths

```



```

drop if liveChildLineNum==. // drops the 2074 HH's with no
under 5 children
codebook hhcode // left with 2922 HH's that have at least
one under 5 child --> total of 4967 children

gen underOneLive = ageInMonths<13
gen oneToTwoLive = ageInMonths>12 & ageInMonths<25
gen twoToThreeLive = ageInMonths>24 & ageInMonths<37
gen threeToFourLive = ageInMonths>36 & ageInMonths<49
gen fourToFiveLive = ageInMonths>48 & ageInMonths<61
gen live = 1
save "temp\liveChildrenCohorts.dta", replace //each row is
a live child

collapse (sum) underOne oneToTwo twoToThree threeToFour
fourToFive, by(hfcode) // total number of kids in each cohort, by health facility

* each line is a hf; vars have number of live children in
each age group
save "temp\numLiveChildrenByAgeGroupHF.dta", replace

*Dead children and their ages

use "raw/crc2006.dta", clear
keep hhcode hfcode s8q3a s8q3b*
gen firstDeadChild = s8q3a>0 & s8q3a<.
gen ageInMonths = s8q3b1
keep if firstDeadChild==1
keep hhcode ageInMonths
save "temp\numDeadChildren1.dta", replace // each row is a
child, from HH's that had any child deaths

use "raw/crc2006.dta", clear
keep hhcode hfcode s8q3a s8q3b*
gen secondDeadChild = s8q3a>1 & s8q3a<.
gen ageInMonths = s8q3b2
keep if secondDeadChild==1
keep hhcode ageInMonths
save "temp\numDeadChildren2.dta", replace // each row is a
child, from HH's that had at least 2 child deaths

use "raw/crc2006.dta", clear
keep hhcode hfcode s8q3a s8q3b*
gen thirdDeadChild = s8q3a>2 & s8q3a<.
gen ageInMonths = s8q3b3
keep if thirdDeadChild==1
keep hhcode ageInMonths
save "temp\numDeadChildren3.dta", replace // each row is a
child, from HH's that had at least 3 child deaths

append using "temp\numDeadChildren1.dta"
append using "temp\numDeadChildren2.dta"
merge m:1 hhcode using "temp/HH_HF.dta" // to assign every
dead child to a health facility

```

```

keep if _merge==3 // only keep 127 dead children

gen underOneDead = ageInMonths<13
gen oneToTwoDead = ageInMonths>12 & ageInMonths<25
gen twoToThreeDead = ageInMonths>24 & ageInMonths<37
gen threeToFourDead = ageInMonths>36 & ageInMonths<49
gen fourToFiveDead = ageInMonths>48 & ageInMonths<61
save "temp\deadChildrenCohorts.dta", replace // every row
is a child, all assigned to a health facility

collapse (sum) underOne oneToTwo twoToThree threeToFour
fourToFive, by(hfcode)
// NOTE: only 45/50 facilities have children who
died
// total number of dead children in each age range,
for each facility

* each line is a hf; vars have number of dead children in
each age group
save "temp\numDeadChildrenByAgeGroupHF.dta", replace

merge 1:1 hfcode using
"temp\numLiveChildrenByAgeGroupHF.dta"

* if there are no values for the dead children, it means
the hf had 0 - fill in here
foreach x in underOneDead oneToTwoDead twoToThreeDead
threeToFourDead fourToFiveDead {
    replace `x' = 0 if _merge==2
}

gen underOneMort = underOneDead /(underOneLive +
underOneDead)
gen oneToTwoMort = oneToTwoDead /(oneToTwoLive +
oneToTwoDead)
gen twoToThreeMort = twoToThreeDead /(twoToThreeLive +
twoToThreeDead)
gen threeToFourMort = threeToFourDead /(threeToFourLive +
threeToFourDead)
gen fourToFiveMort = fourToFiveDead /(fourToFiveLive +
fourToFiveDead)
egen deathRate = rowtotal(underOneMort oneToTwoMort
twoToThreeMort threeToFourMort fourToFiveMort)
gen deathRatePer1000 = 1000*deathRate
capture drop _merge
save "Modified\U5DeathRateByHF.dta", replace

* Table 6, Col 1

* 2922 HH's with live u5 children
use "temp\liveChildrenCohorts.dta", clear
collapse hfcode (sum) underOne, by(hfcode) // total number of
births in each HH (from among live children)
rename underOne numBirthsPastYearNowLive

```

```

save "temp/temp1.dta", replace

* 119 HH's with dead u5 children
use "temp\deadChildrenCohorts.dta", clear
collapse hfcode (sum) underOne, by(hhcode) // total number of
births in each HH (from among dead children)
rename underOne numBirthsPastYearNowDead
merge 1:1 hhcode using "temp/temp1.dta" // 119 HH's that had a
death match

capture drop _merge

merge 1:1 hhcode using "temp/HH_HF.dta"
egen numBirthsOverall = rowtotal(numBirthsPastYearNowLive
numBirthsPastYearNowDead)
capture drop _merge
save "Modified\numBirths.dta", replace // each row is a HH

* Table 6, Col 2
* note: var pregnant = s7q1==1 is defined in Tables do file

* Table 6, Col 4
use "Modified\HF2004.dta", clear // 50 HF's & tx assignment
keep treatment hfcode
capture drop _merge
save "temp/temp2.dta", replace
merge 1:m hfcode using "temp/HH_HF.dta" // merge in 4996 HH's
capture drop _merge
save "temp/temp3.dta", replace // HH's, HF's, and tx assignment

use "temp\liveChildrenCohorts.dta", clear // 4967 children from
2922 HH's with live children
    gen death=0
append using "temp\deadChildrenCohorts.dta" // 127 children from
119 HH's with dead children
    replace death=1 if death==. // each row is a child

* indicator for the child being in each of these age groups
foreach x in underOne oneToTwo twoToThree threeToFour fourToFive
{
    gen `x' = `x'Live if `x'Live!=.
    replace `x' = `x'Dead if `x'Dead!=.
    tab `x', m
}

// each row is one of the 5094 (4967 + 127) children

capture drop _merge
merge m:1 hhcode using "temp/temp3.dta" // doesnt match the 2074
HHs without children
drop if _merge!=3

keep hhcode hfcode underOne oneToTwo twoToThree threeToFour
fourToFive treatment death

gen underOneT = treatment*underOne

```

```

gen oneToTwoT = treatment*oneToTwo
gen twoToThreeT = treatment*twoToThree
gen threeToFourT = treatment*threeToFour
gen fourToFiveT = treatment*fourToFive

save "Modified/Table6Col4.dta", replace

* Table 6, Cols 5 and 6

* to get hfcode
use "raw/crc2006.dta", clear
keep hhcode hfcode
sort hhcode

* weight data
merge 1:m hhcode using "raw/crc2006_s8q12.dta"
drop if _merge!=3
capture drop _merge

* gender data
merge 1:1 cc_s28 using "raw\gender_s28.dta"
capture drop _merge
// net install dm0004.pkg

rename s8q12b weight
gen ageInMonths = s8q12a
gen lnAge = ln(1+s8q12a)
egen WAZ=zanthro(weight, wa, US), xvar(ageInMonths)
gender(female) gencode(male=0, female=1) ageunit(month)

save "Modified/Table6Cols56.dta", replace

```

Merge and prepare baseline facility data

```
cd "...\\Data"

* Treatment Status
    use "raw\\treatmentstatus.dta", clear
    gen control = 1 - treatment
    sort hfcode
    save "Modified\\HF2004.dta", replace

* Section 1: Identification
    use "raw\\hs04_1.dta", clear
    sort hfcode
    merge 1:1 hfcode using "Modified\\HF2004.dta"
    capture drop _merge
    save "Modified\\HF2004.dta", replace

* Section 2: Characteristics of the Health Facility
    use "raw\\hs04_2.dta", clear
    gen drankSafely2004=hs2q14==1 //Table 1
    gen daysNoPwr2004=hs2q17c //Table 1
        replace daysNoPwr2004=31 if hs2q16==2
    gen pipedWater = hs2q13a==2 | hs2q13c==2 //Table 1/A1
    gen radio=hs2q19==1 //Table 1/A1
    gen newspaper=hs2q21==1 //Table 1/A1
    gen sepMatUnit = hs2q1==2 //Table 1/A1
    gen distNearestLC1 = hs2q24g //Table 1/A1
    gen distNearestPubProv =hs2q27e //Table 1/A1
        replace distNearestPubProv=hs2q26e if hs2q27e==. //this approach, with
specific ordering
        //instead of actual closest public health facility is not as
described in the appendix
        //but gives same actual values
        replace distNearestPubProv=hs2q28e if distNearestPubProv==.
    egen distNearestPubProvAlt=rowmin(hs2q26e hs2q27e hs2q28e)
    sort hfcode
    merge 1:1 hfcode using "Modified\\HF2004.dta"
    capture drop _merge
    save "Modified\\HF2004.dta", replace

* Section 3: Services
    * each row appears is a facility month, from
    * skipped in main analysis, possibly because do not have full data on all
facilities
    use "raw\\hs04_3.dta", clear

    * fix some facilities having multiple months repeated
    bysort hfcode hs3mth: gen counter=_n
    tab counter
    drop if counter>1
    tab hs3mth //don't have nov and dec for all facilities, so work with averages

    bysort hfcode: egen avgOutreach = mean(hs3q6)
    collapse avgOutreach, by(hfcode)
    sum avgOutreach
```

```

sort hfcode
merge 1:1 hfcode using "Modified\HF2004.dta"
capture drop _merge
save "Modified\HF2004.dta", replace

* Section 4: Information on Staff
* each row is a staff member
use "raw\hs04_4.dta", clear
*number of staff with advanced A-level education
gen alevel=hs4q6a==1 | hs4q6a==2
tab alevel
bysort hfcode: egen totalALevel = sum(alevel)

*number of staff with below A-level education
gen belowALevel=hs4q6a!=1 & hs4q6a!=2
tab belowALevel
bysort hfcode: egen totalBelowALevel = sum(belowALevel)

*number of workers in facility (Table 3)
gen numWorkers = hs4q1

collapse totalALevel totalBelowALevel numWorkers, by(hfcode)
sort hfcode
merge 1:1 hfcode using "Modified\HF2004.dta"
capture drop _merge
save "Modified\HF2004.dta", replace

* Section 5: Information on drugs
* each row is a facility-month from Jan - Dec 2003
use "raw\hs04_5.dta", clear
recode erythromycin chloroquine cotrimoxazole quinine mebendazole
(88888=.) (33333=.)

bysort hfcode: egen avgEryRecd = mean(erythromycin)
bysort hfcode: egen avgChlRecd = mean(chloroquine)
bysort hfcode: egen avgCotRecd = mean(cotrimoxazole)
bysort hfcode: egen avgQuiRecd = mean(quinine)
bysort hfcode: egen avgMebRecd = mean(mebendazole)

collapse avgEry avgChl avgCot avgQui avgMeb, by(hfcode)
sum avgEry avgChl avgCot avgQui avgMeb
sort hfcode
merge 1:1 hfcode using "Modified\HF2004.dta"
capture drop _merge
save "Modified\HF2004.dta", replace

* Section 6: Information on Vaccines

* each row is a facility month, from Aug - Dec 2003 (have all facilities for
all 4 months)
use "raw\hs04_6.dta", clear
recode bcg polio measles (88888=.)
// there are some outliers in measles

collapse bcg polio measles, by(hfcode)

```

```

        rename bcg avgBCG
        rename polio avgPolio
        rename measles avgMeasles
        sum avgBCG avgPolio avgMeasles
        sort hfcode
        merge 1:1 hfcode using "Modified\HF2004.dta"
        capture drop _merge
        save "Modified\HF2004.dta", replace

* Section 7: HIV/AIDS service delivery and contraceptives
    * each row is a health facility
    use "raw\hs04_7.dta", clear
    sort hfcode
    merge 1:1 hfcode using "Modified\HF2004.dta"
    capture drop _merge
    save "Modified\HF2004.dta", replace

* Section 8: Outputs/Patients Data
    * each row is a facility month, from Jan - Dec 2003
    * Note: only have full 12 months for some vars
    use "raw\hs04_8.dta", clear
        recode hs8q5 (888=.)
        recode hs8q2 hs8q10 h8q11a h8q11b h8q11c (88888=.)
    gen adultOP = hs8q3 - hs8q4
        replace adultOP=. if hs8cmh==12 //excluding December - doesn't actually
make a diff for balance
    gen adultOPwDec = hs8q3 - hs8q4 // checks
    gen OP = hs8q3 // checks
        replace OP=. if hs8cmh==12 //excluding December to match authors' choice
    gen delWDec = hs8q5
    replace hs8q5=. if hs8cmh==12 //excluding December
    collapse adultOP adultOPwDec OP hs8q2 hs8q3 hs8q4 hs8q5 delWDec, by(hfcode)
//generates mthly avg # of OP's, etc., excluding Dec
    rename adultOP avgAdultOP //Table 1
    rename OP avgOP // Table 1 checks (includes young kids)
    rename adultOPwDec avgAdultOPwDec // Table 1 checks
    rename hs8q2 avgOPHMS
    rename hs8q3 avgOPPtRecords
    rename hs8q4 avgOPUnder5
    rename hs8q5 avgDel //Table 1
    rename delWDec avgDelWDec // Table 1 checks
    //skipping lab tests done (hs8q10, h8q11a, h8q11b)
    sort hfcode
    merge 1:1 hfcode using "Modified\HF2004.dta"
    capture drop _merge
    save "Modified\HF2004.dta", replace

* Section 9: financing
    * skipped

* Catchment Area Data //Table 1
    use "raw\catchment_area.dta", clear
    gen hhsPerVill=hhs/villagen
    sort hfcode
    merge 1:1 hfcode using "Modified\HF2004.dta"

```

```

capture drop _merge
save "Modified\HF2004.dta", replace

** Separate Dataset with 2004 controls
use "Modified\HF2004.dta", clear
keep hfcode hdcode treatment villagen daysNoPwr2004 sepMatUnit
distNearestPubProv ///
    totalBelowALevel drankSafely2004 avgQuiRecd
sort hfcode
save "Modified\HF2004Controls", replace

** Separate Dataset with 2004 number of workers
use "Modified\HF2004.dta", clear
keep hfcode numWorkers
save "Modified\NumWorkers2004.dta", replace

```

Merge and prepare endline facility data

```

cd "...Data"

* Treatment Status
use "raw\treatmentstatus.dta", clear
gen control = 1 - treatment
sort hfcode
save "Modified\HF2006.dta", replace

* HF 2006 Data
use "raw\hf2006.dta", clear

* For use in Table 2
gen suggestionBox = hs12q10==1
gen numWaitingCards = hs12q9==1
    replace numWaitingCards=0 if hs12q9==3
gen posterFreeServices = hs12q5==1
gen posterPtRts = hs12q4==1

* For use in Table 3
merge 1:1 hfcode using "Modified\NumWorkers2004.dta" //from end of HF04
cleaning do file
capture drop _merge
gen numStaffPresent = hs1q1
gen numStaffPresent2 = hs13q7 //if no staff were present on first visit, use
second visit
gen numStaffOutreach = hs5q8
gen absenceRate = (numWorkers - numStaffPresent -
numStaffOutreach)/(numWorkers - numStaffOutreach)
    replace absenceRate = (numWorkers - numStaffPresent2 -
numStaffOutreach)/(numWorkers - numStaffOutreach) ///
        if numStaffPresent==0
    replace absenceRate=. if absenceRate<0 //following orig authors' lead
sum absenceRate

* following authors' lead, don't use chloroquine or quinine
gen allMissingErth = 1

```



```

foreach x of varlist hs8q1b1-hs8q1b9 {
    replace allMissingErth = 0 if `x'!=.
}
gen allMissingCotr = 1
foreach x of varlist hs8q3b1-hs8q3b9 {
    replace allMissingCotr = 0 if `x'!=.
}
gen allMissingMeb = 1
foreach x of varlist hs8q5b1-hs8q5b9 {
    replace allMissingMeb = 0 if `x'!=.
}

egen erthStockouts = anycount(hs8q1b1 - hs8q1b9), values(0)
    replace erthStockouts=. if allMissingErth==1
    replace erthStockouts = erthStockouts/9
egen cotrStockouts = anycount(hs8q3b1 - hs8q3b9), values(0)
    replace cotrStockouts=. if allMissingCotr==1
    replace cotrStockouts = cotrStockouts/9
egen mebStockouts = anycount(hs8q5b1 - hs8q5b9), values(0)
    replace mebStockouts=. if allMissingMeb==1
    replace mebStockouts = mebStockouts/9

gen stockoutsCount = (erthStockouts+cotrStockouts+mebStockouts)/3
sum stockoutsCount

** note: variables for management of clinic are generated in Tables do file
    * floorCondition (hs13q15), wallCondition (hs13q16), furnitureCondition
(hs13q17), smell (hs13q18)

* For use in Table 5
    //ALL exclude Jan and Dec, following authors' lead
egen avgAdultOP = rowmean(hs7q3c hs7q3e hs7q3g hs7q3i hs7q3k)
egen avgDel = rowmean(hs7q5b hs7q5c hs7q5d hs7q5e hs7q5f hs7q5g hs7q5h hs7q5i
hs7q5j hs7q5k)
egen avgANC = rowmean(hs7q6b hs7q6c hs7q6d hs7q6e hs7q6f hs7q6g hs7q6h hs7q6i
hs7q6j hs7q6k)
egen avgFP = rowmean(hs7q7b hs7q7c hs7q7d hs7q7e hs7q7f hs7q7g hs7q7h hs7q7i
hs7q7j hs7q7k)
egen avgUnder5 = rowmean(hs7q4c hs7q4e hs7q4g hs7q4i hs7q4k hs7q4l)

* For use in Table 7
gen freeHC = hs3q18a==1
    replace freeHC = . if hs3q18a==.
gen attendOneHr = hs3q18b==1
    replace attendOneHr = . if hs3q18b==.
gen confidentialTx = hs3q18c==1
    replace confidentialTx = . if hs3q18c==.
gen politeTx = hs3q18d==1
    replace politeTx = . if hs3q18d==.
gen infoOnDrugs = hs3q18e==1
    replace infoOnDrugs = . if hs3q18e==.
gen patRightsIndex=0 if hs3q17==2 //0 if answered "no" to knowing any rights
    replace patRightsIndex = (freeHC + attendOneHr + confidentialTx +
politeTx + infoOnDrugs)/5 ///

```

```
if hs3q17==1

sort hfcode
merge 1:1 hfcode using "raw\cbo_presence.dta"
capture drop _merge
gen CBOBefore = cbo_present_before

sort hfcode
merge 1:1 hfcode using "Modified\HF2006.dta" // adding in tx status
capture drop _merge
save "Modified\HF2006.dta", replace
```

Pure replication

```
cd "...\\Data"
```

```
** TABLE 1 **
```

```

** TABLE 1, PANEL 1 **
    use "Modified\\HF2004.dta", clear
    cd "...\\Tables"

    putexcel A1=("Variables") B1=("Treatment Group") C1=("Control Group")
D1=("Difference") ///
    A2=("Key characteristics") ///
    using "Table 1 Panel 1", replace

    * Row 1: Outpatient Care
    reg avgAdultOP treatment control, nocons robust
    putexcel A3=("Outpatient care") ///
    B3=(round(_b[treatment])) B4=(round(_se[treatment]))
///
    C3=(round(_b[control])) C4=(round(_se[control])) ///
    using "Table 1 Panel 1", modify

    reg avgAdultOP treatment, robust
    putexcel D3=(round(_b[treatment])) D4=(round(_se[treatment])) ///
    using "Table 1 Panel 1", modify

    * Row 2: Delivery
    reg avgDel treatment control, nocons robust
    putexcel A5=("Delivery") ///
    B5=(round(_b[treatment],.1))
B6=(round(_se[treatment],.1)) ///
    C5=(round(_b[control],.1))
C6=(round(_se[control],.1)) ///
    using "Table 1 Panel 1", modify

    reg avgDel treatment, robust
    putexcel D5=(round(_b[treatment],.1))
D6=(round(_se[treatment],.1)) ///
    using "Table 1 Panel 1", modify

    * Row 3: No. of households in catchment area
    reg hhs treatment control, nocons robust
    putexcel A7=("No. of households in catchment area") ///
    B7=(round(_b[treatment])) B8=(round(_se[treatment]))
///
    C7=(round(_b[control])) C8=(round(_se[control])) ///
    using "Table 1 Panel 1", modify

    reg hhs treatment, robust
    putexcel D7=(round(_b[treatment],.1)) D8=(round(_se[treatment]))
///
    using "Table 1 Panel 1", modify

```

```

* Row 4: No. of households per village
    reg hhsPerVill treatment control, nocons robust
    putexcel A9=("No. of households per village") ///
    B9=(round(_b[treatment],.1))
B10=(round(_se[treatment],.01)) ///
    C9=(round(_b[control],.1))
C10=(round(_se[control],.01)) ///
    using "Table 1 Panel 1", modify

    reg hhsPerVill treatment, robust
    putexcel D9=(round(_b[treatment],.01))
D10=(round(_se[treatment],.01)) ///
    using "Table 1 Panel 1", modify

* Row 5: Drank safely today
    reg drankSafely2004 treatment control, nocons robust
    putexcel A11=("Drank safely today") ///
    B11=(round(_b[treatment],.01))
B12=(round(_se[treatment],.01)) ///
    C11=(round(_b[control],.01))
C12=(round(_se[control],.01)) ///
    using "Table 1 Panel 1", modify

    reg drankSafely2004 treatment, robust
    putexcel D11=(round(_b[treatment],.01))
D12=(round(_se[treatment],.01)) ///
    using "Table 1 Panel 1", modify

* Row 6: No. of days without electricity in past month
    reg daysNoPwr2004 treatment control, nocons robust
    putexcel A13=("No. of days without electricity in past month")
///
    B13=(round(_b[treatment],.1))
B14=(round(_se[treatment],.01)) ///
    C13=(round(_b[control],.01))
C14=(round(_se[control],.01)) ///
    using "Table 1 Panel 1", modify

    reg daysNoPwr2004 treatment, robust
    putexcel D13=(round(_b[treatment],.01))
D14=(round(_se[treatment],.01)) ///
    using "Table 1 Panel 1", modify

** TABLE 1, PANEL 2 **
* All of these follow Eq. 3 in the text; all are supposed to be based on
  * health facility averages, according to notes on A.1 (though not all
  * averages are actually health facility level - many are not collapsed
down)
  * Follow authors' revised code, and do not collapse individual-level outcomes
  * down to hf level (means that user charges move from being marginal sig
to insig)
  cd "...Data"

```

```

set more off
use "Modified\HF2004.dta", clear
merge 1:m hfcode using "Modified\HH2004.dta"

* Utilization (outpatient care, delivery) - HF04
preserve
collapse treatment avgAdultOP avgDel, by(hfcode)
mysureg (avgAdultOP treatment) (avgDel treatment), vce(robust)
sum avgAdultOP if treatment==0
    global avgAdultOPSD = r(sd)
sum avgDel if treatment==0
    global avgDelSD = r(sd)
lincom .5*([avgAdultOP]treatment/$avgAdultOPSD +
[avgDel]treatment/$avgDelSD)
mat tab1Pan2 = round(r(estimate),.01) \ round(r(se),.01)
mat list tab1Pan2
restore

* Utilization pattern (facilities visited, reverse sign of TH and Self
Tx) - HH04
    * note: dropped otherHFPct to avoid collinearity
mysureg (projectFacilityPct treatment) (NGOPct treatment) ///
    (pvtForProfPct treatment) (tradHealerPct treatment) ///
    (selfTxPct treatment) (otherGovtPct treatment) (otherHFPct
treatment) ///
    , cluster(hfcode)
sum projectFacilityPct if treatment==0
    global projectFacilityPctSD = r(sd)
sum NGOPct if treatment==0
    global NGOPctSD = r(sd)
sum pvtForProfPct if treatment==0
    global pvtForProfPctSD = r(sd)
sum tradHealerPct if treatment==0
    global tradHealerPctSD = r(sd)
sum selfTxPct if treatment==0
    global selfTxPctSD = r(sd)
sum otherGovtPct if treatment==0
    global otherGovtPctSD = r(sd)
sum otherHFPct if treatment==0
    global otherHFPctSD = r(sd)
lincom (1/7)*([projectFacilityPct]treatment/$projectFacilityPctSD
///
    + [NGOPct]treatment/$NGOPctSD ///
    + [pvtForProfPct]treatment/$pvtForProfPctSD ///
    - [tradHealerPct]treatment/$tradHealerPctSD ///
    - [selfTxPct]treatment/$selfTxPctSD ///
    + [otherGovtPct]treatment/$otherGovtPctSD ///
    + [otherHFPct]treatment/$otherHFPctSD )
mat tab1Pan2 = tab1Pan2 \ round(r(estimate),.01) \
round(r(se),.01)
mat list tab1Pan2

* Quality Measures (waiting time and equipment used) - HH04

```

```

mysureg (waitingTime treatment) (equipmentUsed treatment),
cluster(hfcode)
sum waitingTime if treatment==0
    global waitingTimeSD = r(sd)
sum equipmentUsed if treatment==0
    global equipmentUsedSD = r(sd)

lincom (1/2)*(-[waitingTime]treatment/$waitingTimeSD ///
    + [equipmentUsed]treatment/$equipmentUsedSD )
mat tab1Pan2 = tab1Pan2 \ round(r(estimate),.01) \

round(r(se),.01)
mat list tab1Pan2

* Catchment Area Stats - HF04
* to exactly match what authors sent in revised code
preserve
collapse treatment hhs hhsPerVill villagen village1 village3,
by(hfcode)
mysureg (hhs treatment) (hhsPerVill treatment) (villagen
treatment) ///
    (villagen treatment) (village1 treatment) (village3 treatment), vce(robust)
sum hhs if treatment==0
    global hhsSD = r(sd)
sum hhsPerVill if treatment==0
    global hhsPerVillSD = r(sd)
sum villagen if treatment==0
    global villagenSD = r(sd)
sum village1 if treatment==0
    global village1SD = r(sd)
sum village3 if treatment==0
    global village3SD = r(sd)

lincom (1/5)*([hhs]treatment/$hhsSD ///
    + [hhsPerVill]treatment/$hhsPerVillSD ///
    + [villagen]treatment/$villagenSD ///
    + [village1]treatment/$village1SD ///
    + [village3]treatment/$village3SD )
mat tab1Pan2 = tab1Pan2 \ round(r(estimate),.01) \

round(r(se),.01)
mat list tab1Pan2
restore

* to do what the paper says
preserve
collapse treatment villagen village1 village3 village5,
by(hfcode)
set more off
mysureg (village1 treatment) (village3 treatment) (village5
treatment), vce(robust)
sum village1 if treatment==0
    global village1SD = r(sd)
sum village3 if treatment==0
    global village3SD = r(sd)
sum village5 if treatment==0
    global village5SD = r(sd)

```

```

        lincom (1/3)*([village1]treatment/$village1SD ///
            + [village3]treatment/$village3SD ///
            + [village5]treatment/$village5SD )
        mat tab1Pan2 = tab1Pan2 \ round(r(estimate),.01) \
round(r(se),.01)
        mat list tab1Pan2
        restore

* Health Facility Chars (10 things) - HF04
        preserve
        collapse treatment pipedWater radio newspaper sepMatUnit
distNearestLC1 distNearestPubProv ///
            totalAlevel totalBelowAlevel drankSafely2004
daysNoPwr2004, by(hfcode)
        msysureg (pipedWater treatment) ///
            (radio treatment) ///
            (newspaper treatment) ///
            (sepMatUnit treatment) ///
            (distNearestLC1 treatment) ///
            (distNearestPubProv treatment) ///
            (totalAlevel treatment) ///
            (totalBelowAlevel treatment) ///
            (drankSafely2004 treatment) ///
            (daysNoPwr2004 treatment), vce(robust)
        foreach var in pipedWater radio newspaper sepMatUnit
distNearestLC1 distNearestPubProv ///
            totalAlevel totalBelowAlevel drankSafely2004 daysNoPwr2004
{
            sum `var' if treatment==0
            global `var'SD = r(sd)
        }
        lincom (1/10)*([pipedWater]treatment/$pipedWaterSD ///
            + [radio]treatment/$radioSD ///
            + [newspaper]treatment/$newspaperSD ///
            + [sepMatUnit]treatment/$sepMatUnitSD ///
            - [distNearestLC1]treatment/$distNearestLC1SD ///
            + [distNearestPubProv]treatment/$distNearestPubProvSD ///
            + [totalAlevel]treatment/$totalAlevelSD ///
            + [totalBelowAlevel]treatment/$totalBelowAlevelSD ///
            + [drankSafely2004]treatment/$drankSafely2004SD ///
            - [daysNoPwr2004]treatment/$daysNoPwr2004SD )
        mat tab1Pan2 = tab1Pan2 \ round(r(estimate),.01) \
round(r(se),.01)
        mat list tab1Pan2
        restore

* Citizen Perceptions - HH04
        msysureg (polite treatment) ///
            (paidAttn treatment) ///
            (freeToExpress treatment) ///
            (informAbtDrugDel treatment), cluster(hfcode)
        foreach var in polite paidAttn freeToExpress informAbtDrugDel {
            sum `var' if treatment==0
            global `var'SD = r(sd)
        }

```

```

    }
    lincom (1/4)*([polite]treatment/$politeSD ///
    + [paidAttn]treatment/$paidAttnSD ///
    + [freeToExpress]treatment/$freeToExpressSD ///
    + [informAbtDrugDel]treatment/$informAbtDrugDelSD )
    mat tab1Pan2 = tab1Pan2 \ round(r(estimate),.01) \
round(r(se),.01)
    mat list tab1Pan2

* Supply of drugs - HF04
    preserve
    collapse treatment avgEryRecd avgChlRecd avgCotRecd avgQuiRecd
avgMebRecd, by(hfcode)
    msysureg (avgEryRecd treatment) ///
    (avgChlRecd treatment) ///
    (avgCotRecd treatment) ///
    (avgQuiRecd treatment) ///
    (avgMebRecd treatment), vce(robust)
    foreach var in avgEryRecd avgChlRecd avgCotRecd avgQuiRecd
avgMebRecd {
        sum `var' if treatment==0
        global `var'SD = r(sd)
    }
    lincom (1/5)*([avgEryRecd]treatment/$avgEryRecdSD ///
    + [avgChlRecd]treatment/$avgChlRecdSD ///
    + [avgCotRecd]treatment/$avgCotRecdSD ///
    + [avgQuiRecd]treatment/$avgQuiRecdSD ///
    + [avgMebRecd]treatment/$avgMebRecdSD )
    mat tab1Pan2 = tab1Pan2 \ round(r(estimate),.01) \
round(r(se),.01)
    mat list tab1Pan2
    restore

* User charges - HH04
* facility level (matching authors)
    preserve
    collapse treatment avgDrugCharge avgGenTxCharge
avgInjectionCharge avgDeliveryCharge, by(hfcode)
    msysureg (avgDrugCharge treatment) ///
    (avgGenTxCharge treatment) ///
    (avgInjectionCharge treatment) ///
    (avgDeliveryCharge treatment), vce(robust)
    foreach var in avgDrugCharge avgGenTxCharge avgInjectionCharge
avgDeliveryCharge {
        sum `var' if treatment==0
        global `var'SD = r(sd)
    }
    lincom (1/4)*(-[avgDrugCharge]treatment/$avgDrugChargeSD ///
    - [avgGenTxCharge]treatment/$avgGenTxChargeSD ///
    - [avgInjectionCharge]treatment/$avgInjectionChargeSD ///
    - [avgDeliveryCharge]treatment/$avgDeliveryChargeSD )
    mat tab1Pan2 = tab1Pan2 \ round(r(estimate),.01) \
round(r(se),.01)
    mat list tab1Pan2

```



```

        restore

        * individual level (following pattern in all other rows)
        mysureg (drugsCharge treatment) ///
                (genTxCharge treatment) ///
                (injectionCharge treatment) ///
                (deliveryCharge treatment), cluster(hfcode)
        foreach var in drugsCharge genTxCharge injectionCharge
deliveryCharge {
                sum `var' if treatment==0
                global `var'SD = r(sd)
        }
        lincom (1/4)*(-[drugsCharge]treatment/$drugsChargeSD ///
- [genTxCharge]treatment/$genTxChargeSD ///
- [injectionCharge]treatment/$injectionChargeSD ///
- [deliveryCharge]treatment/$deliveryChargeSD )

** TABLE 2
    * Columns 1-5
        use "Modified\HF2004.dta", clear
        merge 1:1 hfcode using "Modified\HF2006.dta"

        gen lndist = ln(distNearestPubProv)

        tab hfcode, gen(dist)

        mysureg (suggestionBox treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
                totalBelowALevel drankSafely2004 avgQuiRecd dist2-dist9)
        ///
                (numWaitingCards treatment villagen daysNoPwr2004
sepMatUnit lndist ///
                totalBelowALevel drankSafely2004 avgQuiRecd dist2-dist9)
        ///
                (posterFreeServices treatment villagen daysNoPwr2004
sepMatUnit lndist ///
                totalBelowALevel drankSafely2004 avgQuiRecd dist2-dist9)
        ///
                (posterPtRts treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
                totalBelowALevel drankSafely2004 avgQuiRecd dist2-dist9)
        ///
                , vce(robust)

        foreach var in suggestionBox numWaitingCards posterFreeServices
posterPtRts {
                sum `var' if treatment==0
                global `var'SD = r(sd)
        }

        ** Since variance on suggestionBox in control group is zero, can do this
        excluding the var:
        lincom (1/3)*([numWaitingCards]treatment/$numWaitingCardsSD ///

```

```

+ [posterFreeServices]treatment/$posterFreeServicesSD ///
+ [posterPtRts]treatment/$posterPtRtsSD )

** or creating a new var, the sum of suggestionBox and numWaitingCards
(based on author suggestion):
gen suggAndWaiting = suggestionBox + numWaitingCards
sum suggAndWaiting if treatment==0
global suggAndWaitingSD = r(sd)
mysureg (suggAndWaiting treatment villagen daysNoPwr2004 sepMatUnit
Indist ///
totalBelowALEvel drankSafely2004 avgQuiRecd dist2-dist9)
///
(posterFreeServices treatment villagen daysNoPwr2004
sepMatUnit Indist ///
totalBelowALEvel drankSafely2004 avgQuiRecd dist2-dist9)
///
(posterPtRts treatment villagen daysNoPwr2004 sepMatUnit
Indist ///
totalBelowALEvel drankSafely2004 avgQuiRecd dist2-dist9)
///
, vce(robust)
lincom (1/3)*([suggAndWaiting]treatment/$suggAndWaitingSD ///
+
[posterFreeServices]treatment/$posterFreeServicesSD ///
+ [posterPtRts]treatment/$posterPtRtsSD)

* Columns 6 and 7
use "Modified\HF2004.dta", clear // for controls
merge 1:m hfcode using "Modified\HH2006.dta" //for outcomes

gen Indist = ln(distNearestPubProv)

reg discFacLCMtgs treatment villagen daysNoPwr2004 sepMatUnit
Indist ///
totalBelowALEvel drankSafely2004 avgQuiRecd
i.hfcode, robust cluster(hfcode)
sum discFacLCMtgs if treatment==0
reg recdInfoAbtHUMC treatment villagen daysNoPwr2004 sepMatUnit
Indist ///
totalBelowALEvel drankSafely2004 avgQuiRecd
i.hfcode, robust cluster(hfcode)
sum recdInfoAbtHUMC if treatment==0

** TABLE 3
* Rows 1, 3
set more off
cd "...Data"

use "Modified\HH2004.dta", clear
keep hhcode hfcode treatment year waitingTime equipmentUsed
save "Modified\HHWaitEquip.dta", replace
use "Modified\HH2006.dta", clear
keep hhcode hfcode treatment year waitingTime equipmentUsed

```

```

append using "Modified\HHWaitEquip.dta"

gen year06=year==2006
gen txAnd06 = treatment*year06
reg equipmentUsed txAnd06 year06 i.hfcode, robust cluster(hfcode)
    sum equipmentUsed if treatment==0 & year==2006
reg waitingTime txAnd06 year06 i.hfcode, robust cluster(hfcode)
    sum waitingTime if treatment==0 & year==2006

* Rows 2, 4
use "Modified\HH2006.dta", clear
merge m:1 hfcode using "Modified\HF2004.dta"

gen lndist = ln(distNearestPubProv) // makes a big diff on waiting time
to use ln(dist) instead of just dist

reg equipmentUsed treatment villagen daysNoPwr2004 sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hdcode, robust cluster(hfcode)
sum equipmentUsed if treatment==0
reg waitingTime treatment villagen daysNoPwr2004 sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hdcode, robust cluster(hfcode)
sum waitingTime if treatment==0

* Row 5: Absence Rate
use "Modified\HF2004.dta", clear
keep treatment villagen daysNoPwr2004 sepMatUnit ///
    distNearestPubProv totalBelowAlevel drankSafely2004 avgQuiRecd
///
    hdcode hfcode

gen lndist = ln(distNearestPubProv)

sort hfcode
merge 1:1 hfcode using "Modified\HF2006.dta"
reg absenceRate treatment villagen daysNoPwr2004 sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hdcode, robust
sum absenceRate if treatment==0

* Row 6
generate floorCondition = 4 - hs13q15 //approach follows authors' lead
generate wallCondition = 4 - hs13q16
generate furnitureCondition = 4 - hs13q17
generate smell = 4 - hs13q18
pca floorCondition wallCondition furnitureCondition smell
predict mgtOfClinic
reg mgtOfClinic treatment villagen daysNoPwr2004 sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hdcode, robust
sum mgtOfClinic if treatment==0

* Rows 7-8: health info and importance of family planning

```

```

use "Modified\HH2006.dta", clear
merge m:1 hfcode using "Modified\HF2004.dta"
gen lndist = ln(distNearestPubProv)

reg healthInfo treatment villagen daysNoPwr2004 sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hfcode, robust cluster(hfcode)
sum healthInfo if treatment==0
reg impOfFP treatment villagen daysNoPwr2004 sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hfcode, robust cluster(hfcode)
sum impOfFP if treatment==0

* Row 9: stockouts
use "Modified\HF2004.dta", clear
keep treatment villagen daysNoPwr2004 sepMatUnit ///
    distNearestPubProv totalBelowAlevel drankSafely2004 avgQuiRecd
///
    hfcode hfcode
sort hfcode
merge 1:1 hfcode using "Modified\HF2006.dta"
gen lndist = ln(distNearestPubProv)

reg stockouts treatment villagen daysNoPwr2004 sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hfcode, robust
sum stockouts if treatment==0

** Table 4: Immunizations
set more off
use "Modified\HF2004.dta", clear
keep treatment villagen daysNoPwr2004 sepMatUnit ///
    distNearestPubProv totalBelowAlevel drankSafely2004 avgQuiRecd
///
    hfcode hfcode
sort hfcode
merge 1:m hfcode using "Modified\Immunizations2006.dta"

gen lndist = ln(distNearestPubProv)

* Col 1: Newborns (< 3 months): N = 174
tab hfcode, gen(dist)
mysureg (DPTImmInfant treatment villagen daysNoPwr2004 sepMatUnit lndist
///
    totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
    (BCGImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
    totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
    (polioImmInfant treatment villagen daysNoPwr2004
sepMatUnit lndist ///

```

```

totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(vitASuppInfant treatment villagen daysNoPwr2004
sepMatUnit lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
if ageInMonths<3, cluster(hfcode)
foreach var in DPTImmInfant BCGImm polioImmInfant vitASuppInfant {
    sum `var' if treatment==0 & ageInMonths<3
    global `var'SD = r(sd)
}
lincom (1/4)*([DPTImmInfant]treatment/$DPTImmInfantSD ///
+ [BCGImm]treatment/$BCGImmSD ///
+ [polioImmInfant]treatment/$polioImmInfantSD ///
+ [vitASuppInfant]treatment/$vitASuppInfantSD )
mat Table4 = round(r(estimate),.01) \ round(r(se),.01) \ 173

* Col 2: Under 1 year: N = 937
mysureg (DPTImm treatment villagen daysNoPwr2004 sepMatUnit lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(BCGImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(polioImm treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(vitASupp treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
if ageInMonths<13, vce(robust)
foreach var in DPTImm BCGImm polioImm vitASupp {
    sum `var' if treatment==0 & ageInMonths<13
    global `var'SD = r(sd)
}
lincom (1/4)*([DPTImm]treatment/$DPTImmSD ///
+ [BCGImm]treatment/$BCGImmSD ///
+ [polioImm]treatment/$polioImmSD ///
+ [vitASupp]treatment/$vitASuppSD )
mat Table4Col2 = round(r(estimate),.01) \ round(r(se),.01) \ 937
mat Table4 = Table4 , Table4Col2
mat list Table4

* Col 3: 1 year: N = 940
mysureg (measlesImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(DPTImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///

```

```

        (BCGImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
        totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
        (polioImm treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
        totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
        (vitASupp treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
        totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
        if ageInMonths>12 & ageInMonths<25, cluster(hfcode)
        foreach var in measlesImm DPTImm BCGImm polioImm vitASupp {
            sum `var' if treatment==0 & ageInMonths>12 &
ageInMonths<25
                global `var'SD = r(sd)
        }
        lincom (1/5)*([measlesImm]treatment/$measlesImmSD ///
            + [DPTImm]treatment/$DPTImmSD ///
            + [BCGImm]treatment/$BCGImmSD ///
            + [polioImm]treatment/$polioImmSD ///
            + [vitASupp]treatment/$vitASuppSD )
        mat Table4Col3 = round(r(estimate),.001) \ round(r(se),.001) \ 940
        mat Table4 = Table4 , Table4Col3
        mat list Table4

* Col 4: 2 years: N = 951
        mysureg (measlesImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
        totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
        (DPTImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
        totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
        (BCGImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
        totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
        (polioImm treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
        totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
        (vitASupp treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
        totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
        if ageInMonths>24 & ageInMonths<37, cluster(hfcode)
        foreach var in measlesImm DPTImm BCGImm polioImm vitASupp {
            sum `var' if treatment==0 & ageInMonths>24 &
ageInMonths<37
                global `var'SD = r(sd)
        }
        lincom (1/5)*([measlesImm]treatment/$measlesImmSD ///

```

```

+ [DPTImm]treatment/$DPTImmSD ///
+ [BCGImm]treatment/$BCGImmSD ///
+ [polioImm]treatment/$polioImmSD ///
+ [vitASupp]treatment/$vitASuppSD )
mat Table4Col4 = round(r(estimate),.01) \ round(r(se),.0 1) \ 951
mat Table4 = Table4 , Table4Col4
mat list Table4

* Col 5: 3 years: N = 1110
mysureg (measlesImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(DPTImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(BCGImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(polioImm treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(vitASupp treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
if ageInMonths>36 & ageInMonths<49, vce(robust)
foreach var in measlesImm DPTImm BCGImm polioImm vitASupp {
sum `var' if treatment==0 & ageInMonths>36 &
ageInMonths<49
global `var'SD = r(sd)
}
lincom (1/5)*([measlesImm]treatment/$measlesImmSD ///
+ [DPTImm]treatment/$DPTImmSD ///
+ [BCGImm]treatment/$BCGImmSD ///
+ [polioImm]treatment/$polioImmSD ///
+ [vitASupp]treatment/$vitASuppSD )
mat Table4Col5 = round(r(estimate),.01) \ round(r(se),.0 1) \ 1110
mat Table4 = Table4 , Table4Col5
mat list Table4

* Col 6: 4 years: N = 526
mysureg (measlesImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(DPTImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(BCGImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///

```

```

totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(polioImm treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(vitASupp treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
if ageInMonths>48 & ageInMonths<61, cluster(hfcode)
foreach var in measlesImm DPTImm BCGImm polioImm vitASupp {
    sum `var' if treatment==0 & ageInMonths>48 &
ageInMonths<61
    global `var'SD = r(sd)
}
lincom (1/5)*([measlesImm]treatment/$measlesImmSD ///
+ [DPTImm]treatment/$DPTImmSD ///
+ [BCGImm]treatment/$BCGImmSD ///
+ [polioImm]treatment/$polioImmSD ///
+ [vitASupp]treatment/$vitASuppSD )
mat Table4Col6 = round(r(estimate),.01) \ round(r(se),.0 1) \ 526
mat Table4 = Table4 , Table4Col6
mat list Table4

** Table 5
* Cols 1 - 5: HF Load, OLS: HF 2004 controls and HF 2006 outcomes
set more off
use "Modified\HF2004.dta", clear
keep treatment villagen daysNoPwr2004 sepMatUnit ///
distNearestPubProv totalBelowAlevel drankSafely2004 avgQuiRecd
///
hdcode hfcode
sort hfcode
merge 1:m hfcode using "Modified\HF2006.dta"

gen lndist = ln(distNearestPubProv)
tab hdcode, gen(dist)
mysureg (avgAdultOP treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(avgDel treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(avgANC treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(avgFP treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///

```



```

        , vce(robust)
    foreach var in avgAdultOP avgDel avgANC avgFP {
        sum `var' if treatment==0
        global `var'SD = r(sd)
    }
    lincom (1/4)*([avgAdultOP]treatment/$avgAdultOPSD ///
        + [avgDel]treatment/$avgDelSD ///
        + [avgANC]treatment/$avgANCSD ///
        + [avgFP]treatment/$avgFPSD )
    mat Table5 = round(r(estimate),.01) \ round(r(se),.01) \ 50

    keep hfcode hdcode treatment year avgAdultOP avgDel
    save "Modified\HFLoad06.dta", replace

* Cols 9 - 11: HF Load, DD
    use "Modified\HF2004.dta", replace
    gen year=2004
    keep hfcode hdcode treatment year avgAdultOP avgDel
    append using "Modified\HFLoad06.dta"
    save "Modified\HFLoadStackedTab5.dta", replace

    tab hfcode, gen(hf)
    gen year06=year==2006
    gen txAnd06 = treatment*year06
    msysreg (avgAdultOP txAnd06 year06 hf2-hf50) ///
        (avgDel txAnd06 year06 hf2-hf50), vce(robust)

    foreach var in avgAdultOP avgDel {
        sum `var' if treatment==0 & year==2006
        global `var'SD = r(sd)
    }
    lincom (1/2)*([avgAdultOP]txAnd06/$avgAdultOPSD ///
        + [avgDel]txAnd06/$avgDelSD )
    mat Table5Col11 = round(r(estimate),.01) \ round(r(se),.01) \ 100

* Cols 6 - 8: Utilization, OLS (collapsed by catchment area)

    set more off
    use "Modified\HF2004.dta", clear
    gen lndist = ln(distNearestPubProv)
    keep treatment villagen daysNoPwr2004 sepMatUnit ///
        lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
        hdcode hfcode
    sort hfcode
    merge 1:m hfcode using "Modified\Utilization2006.dta"
    collapse projectFacilityPct STTHPct ///
        treatment villagen daysNoPwr2004 sepMatUnit ///
        lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
        hdcode, by(hfcode)

    tab hdcode, gen(dist)
    msysreg (projectFacilityPct treatment villagen daysNoPwr2004 sepMatUnit
lndist ///

```

```

                                totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
                                (STTHPct treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
                                totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
                                , vce(robust)
foreach var in projectFacilityPct STTHPct {
                                sum `var' if treatment==0
                                global `var'SD = r(sd)
                                }
lincom (1/2)*([projectFacilityPct]treatment/$projectFacilityPctSD ///
- [STTHPct]treatment/$STTHPctSD )
mat Table5Col8 = round(r(estimate),.01) \ round(r(se),.01) \ 50
mat Table5 = Table5 , Table5Col8
gen year = 2006
drop dist1 - dist9
save "Modified\Utilization06Controls.dta", replace

* Cols 12 - 14: Utilization, DD
cd "...Data"

*Create Stacked Panel Dataset
use "Modified\HF2004.dta", clear
gen lndist = ln(distNearestPubProv)
keep treatment villagen daysNoPwr2004 sepMatUnit ///
lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
hdcode hfcode
sort hfcode
merge 1:m hfcode using "Modified\HH2004.dta"
collapse projectFacilityPct STTHPct ///
treatment villagen daysNoPwr2004 sepMatUnit ///
lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
hdcode year, by(hfcode)
append using "Modified\Utilization06Controls.dta"
save "Modified\UtilizationControlsStackedTab5.dta", replace

* DD Regressions
use "Modified\UtilizationControlsStackedTab5.dta", clear
tab hdcode, gen(dist)
tab hfcode, gen(hf)
gen year06=year==2006
gen txAnd06 = treatment*year06
mysureg (projectFacilityPct txAnd06 year06 hf2-hf50) ///
(STTHPct txAnd06 year06 hf2-hf50), vce(robust)

foreach var in projectFacilityPct STTHPct {
sum `var' if treatment==0 & year==2006
global `var'SD = r(sd)
}
lincom (1/2)*([projectFacilityPct]txAnd06/$projectFacilityPctSD ///
- [STTHPct]txAnd06/$STTHPctSD )
mat Table5Col14 = round(r(estimate),.01) \ round(r(se),.01) \ 100

```

** Table 6

* T6: Col 1

```
* control vars
use "Modified\HF2004.dta", clear
gen lndist = ln(distNearestPubProv)
keep treatment villagen daysNoPwr2004 sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    hdcode hfcode
sort hfcode
capture drop _merge

merge 1:m hfcode using "Modified\numBirths.dta"

*using number "under one" as equivalent to number of births
reg numBirthsOverall treatment villagen daysNoPwr2004 sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hdcode, robust cluster(hfcode)

sum numBirthsOverall if treatment==0
```

* T6: Col 2

```
set more off
use "Modified\HF2004.dta", clear

keep treatment villagen daysNoPwr2004 sepMatUnit ///
    distNearestPubProv totalBelowAlevel drankSafely2004 avgQuiRecd
///
    hdcode hfcode
sort hfcode
merge 1:m hfcode using "Modified\HH2006.dta"
gen pregnant = s7q1==1
gen lndist = ln(distNearestPubProv)
reg pregnant treatment villagen daysNoPwr2004 sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hdcode, robust cluster(hfcode)
sum pregnant if treatment==0
```

* T6: Col 3

```
set more off
use "Modified\HF2004.dta", clear
keep treatment villagen daysNoPwr2004 sepMatUnit ///
    distNearestPubProv totalBelowAlevel drankSafely2004 avgQuiRecd
///
    hdcode hfcode
sort hfcode
merge 1:1 hfcode using "Modified\U5DeathRateByHF.dta"
gen lndist = ln(distNearestPubProv)
reg deathRatePer1000 treatment villagen daysNoPwr2004 sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hdcode, robust
sum deathRatePer1000 if treatment==0
```

* T6: Col 4

```

set more off
use "Modified\HF2004.dta", clear
keep treatment villagen daysNoPwr2004 sepMatUnit ///
    distNearestPubProv totalBelowAlevel drankSafely2004 avgQuiRecd
///

    hrcode hrcode
sort hrcode
merge 1:m hrcode using "Modified\Table6Col4.dta"
gen lndist = ln(distNearestPubProv)

reg death underOneT oneToTwoT twoToThreeT threeToFourT fourToFiveT ///
    underOne oneToTwo twoToThree threeToFour fourToFive ///
    villagen daysNoPwr2004 sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hrcode, robust cluster(hrcode)
sum death if treatment==0

* T6: Cols 5,6
set more off
use "Modified\HF2004.dta", clear
keep treatment villagen daysNoPwr2004 sepMatUnit ///
    distNearestPubProv totalBelowAlevel drankSafely2004 avgQuiRecd
///

    hrcode hrcode
sort hrcode
merge 1:m hrcode using "Modified\Table6Cols56.dta"

gen lndist=ln(distNearestPubProv)

reg WAZ treatment villagen daysNoPwr2004 sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hrcode ///
    if ageInMonths < 18 & WAZ > -4.5 & WAZ < 4.5 & weight < 12 ///
    , robust cluster(hrcode)

areg WAZ treatment villagen daysNoPwr2004 sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    if ageInMonths < 18 & WAZ > -4.5 & WAZ < 4.5 & weight < 12 ///
    , robust cluster(hrcode) a(hrcode)

reg WAZ treatment lnAge female villagen daysNoPwr2004 sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hrcode ///
    if ageInMonths < 18 & WAZ > -4.5 & WAZ < 4.5 & weight < 12 ///
    , robust cluster(hrcode)

sum WAZ if treatment==0 & ageInMonths < 18 & WAZ > -4.5 & WAZ < 4.5 &
weight < 12

** Table 7
set more off
* Generate Community monitoring index
use "Modified\HF2004.dta", clear

```

```

rename avgAdultOP avgAdultOP2004
keep hfcode avgAdultOP2004

merge 1:1 hfcode using "Modified\U5DeathRateByHF.dta"
capture drop _merge

merge 1:1 hfcode using "Modified\HF2006.dta"
capture drop _merge
keep hfcode dcode treatment suggestionBox numWaitingCards ///
    posterFreeServices posterPtRts avgAdultOP avgAdultOP2004 ///
    deathRatePer1000 patRightsIndex CB0Before
save "temp/Table7_1.dta", replace

use "Modified\HH2006.dta", clear
collapse discFacLCMtgs recdInfoAbtHUMC, by(hfcode)
merge 1:1 hfcode using "temp/Table7_1.dta"
capture drop _merge
tab dcode, gen(dist)
gen distTx1 = dist1*treatment
gen distTx2 = dist2*treatment
gen distTx3 = dist3*treatment
gen distTx4 = dist4*treatment
gen distTx5 = dist5*treatment
gen distTx6 = dist6*treatment
gen distTx7 = dist7*treatment
gen distTx8 = dist8*treatment
gen distTx9 = dist9*treatment

pca suggestionBox numWaitingCards posterFreeServices ///
    posterPtRts discFacLCMtgs recdInfoAbtHUMC
predict monitoringIndex

pca discFacLCMtgs recdInfoAbtHUMC
predict monitoringIndex2

foreach var in monitoringIndex monitoringIndex2 avgAdultOP avgAdultOP2004
deathRatePer1000 patRightsIndex {
    sum `var' if treatment==0
    gen `var'Std = `var'/r(sd)
}

* T7: Column 1: Outpatients
ivreg2 avgAdultOPStd avgAdultOP2004Std dist1-dist9 ///
    (monitoringIndexStd = distTx1 - distTx9), robust nocon

ivreg2 avgAdultOPStd avgAdultOP2004Std dist1-dist9 ///
    (monitoringIndex2Std = distTx1 - distTx9), robust nocon

* T7: Column 2: U5MR
ivreg2 deathRatePer1000Std dist1-dist9 ///
    (monitoringIndexStd = distTx1 - distTx9), robust nocon

ivreg2 deathRatePer1000Std dist1-dist9 ///

```

```

        (monitoringIndex2Std = distTx1 - distTx9), robust nocon

* T7: Column 3: OP + tx indicator
ivreg2 avgAdultOPStd avgAdultOP2004Std treatment dist1-dist9 ///
      (monitoringIndex = distTx1 - distTx9), robust nocon

* T7: Column 4: U5MR + tx indicator
ivreg2 deathRatePer1000Std treatment dist1-dist9 ///
      (monitoringIndexStd = distTx1 - distTx9), robust nocon

* T7: Column 5: OP + staff knowledge
ivreg2 avgAdultOPStd avgAdultOP2004Std dist1-dist9 ///
      (monitoringIndexStd patRightsIndexStd = distTx1 - distTx9), robust nocon

* T7: Column 6: U5MR + staff knowledge
ivreg2 deathRatePer1000Std dist1-dist9 ///
      (monitoringIndexStd patRightsIndexStd = distTx1 - distTx9), robust nocon

* T7: Cols 7 and 8: OP + tx and CBO presence
gen CBOTx = CBOBefore*treatment
mysureg (avgAdultOP treatment CBOBefore CBOTx) ///
      (deathRatePer1000 treatment CBOBefore CBOTx), vce(robust)
test [avgAdultOP]treatment [deathRatePer1000]treatment
test [avgAdultOP]CBOBefore [deathRatePer1000]CBOBefore
test [avgAdultOP]CBOTx [deathRatePer1000]CBOTx

```

Replication Extension

```
cd "...\\Data"
```

```
** Table 8: Balance on HH Char's
    use "Modified\\HH2004.dta", clear

    * Number of adults s1q3
    gen numAdults = s1q3
    reg numAdults treatment control, nocons robust
    reg numAdults treatment, robust cluster(hfcode)

    * Number of children under 15 years s1q4 - not reported
    gen numChildren = s1q4
    reg numChildren treatment control, nocons robust
    reg numChildren treatment, robust cluster(hfcode)

    * Any children under 5 years s8q1
    gen childUnder5InHH = s8q1==1 if s8q1!=.
    reg childUnder5InHH treatment control, nocons robust
    reg childUnder5InHH treatment, robust cluster(hfcode)

    * Number of children under 5 years s8q2
    gen numChildrenUnder5 = s8q2
    replace numChildrenUnder5=0 if s8q2==.
    reg numChildrenUnder5 treatment control, nocons robust
    reg numChildrenUnder5 treatment, robust cluster(hfcode)

    * Has anyone in your HH been pregnant since Jan 2003? s7q1
    gen pregnant = s7q1==1 if s7q1!=.
    reg pregnant treatment control, nocons robust
    reg pregnant treatment, robust cluster(hfcode)

    * Respondent's highest level of edu s9q6
    gen secondaryEdu = s9q6==8 if s9q6<10 // 18% of sample
    reg secondaryEdu treatment control, nocons robust
    reg secondaryEdu treatment, robust cluster(hfcode)

    * Wall materials
    gen lowQualWalls = s9q8<3 if s9q8!=. & s9q8<7 // dropping "other", 58%
    reg lowQualWalls treatment control, nocons robust
    reg lowQualWalls treatment, robust cluster(hfcode)

    * to see if way of specifying the "low quality" is driving the
    gen lowQualWalls2 = s9q8<2 if s9q8!=. & s9q8<7
    reg lowQualWalls2 treatment control, nocons robust
    reg lowQualWalls2 treatment, robust

    * Roof material
    gen lowQualRoof = s9q9<2 if s9q9<5
```

```

reg lowQualRoof treatment control, nocons robust
reg lowQualRoof treatment, robust cluster(hfcode)

keep hhcode hfcode childUnder5InHH lowQualWalls lowQualRoof
save "Modified\HHControls.dta", replace

** TABLE 9 - PRETREATMENT BALANCE ON APPROPRIATE VACCINES/VITAMIN A SUPP COUNT
use "Modified\Immunizations2004_wTx.dta", clear // each observation is a
child

    * create indicators for "appropriate" num of immunizations (i.e.,
account for infant immunizations)
    gen polioAppropriate = polioImm
        replace polioAppropriate = polioImmInfant if ageInMonths<3
    gen DPTAppropriate = DPTImm
        replace DPTAppropriate = DPTImmInfant if ageInMonths<3

    gen control = 1 - treatment
    reg measlesImm treatment control if ageInMonths>2, nocons robust //
measles only relevant for children 3 months and older
    reg measlesImm treatment if ageInMonths>2, robust cluster(hfcode) //
measles only relevant for children 3 months and older

    reg polioAppropriate treatment control , nocons robust
    reg polioAppropriate treatment , robust cluster(hfcode)

    reg DPTAppropriate treatment control , nocons robust
    reg DPTAppropriate treatment , robust cluster(hfcode)

    reg BCGImm treatment control , nocons robust
    reg BCGImm treatment , robust cluster(hfcode)

    reg vitASupp treatment control , nocons robust
    reg vitASupp treatment , robust cluster(hfcode)

** Table 10: redoing Table 4 (Program Impact on Immunization), but with baseline imm
data (to see that it looks very similar)

    set more off
    use "Modified\HF2004.dta", clear
    keep treatment villagen daysNoPwr2004 sepMatUnit ///
        distNearestPubProv totalBelowALevel drankSafely2004 avgQuiRecd
///
        hdcode hfcode
    sort hfcode
    merge 1:m hfcode using "Modified\Immunizations2004_wTx.dta"

    gen lndist = ln(distNearestPubProv)

* Col 1: Newborns (< 3 months): N = 127
    tab hdcode, gen(dist)
    msysreg (DPTImmInfant treatment villagen daysNoPwr2004 sepMatUnit lndist
///

```



```

totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(BCGImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(polioImmInfant treatment villagen daysNoPwr2004
sepMatUnit lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(vitASuppInfant treatment villagen daysNoPwr2004
sepMatUnit lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
if ageInMonths<3, cluster(hfcode)
foreach var in DPTImmInfant BCGImm polioImmInfant vitASuppInfant {
    sum `var' if treatment==0 & ageInMonths<3
    global `var'SD = r(sd)
}
lincom (1/4)*([DPTImmInfant]treatment/$DPTImmInfantSD ///
+ [BCGImm]treatment/$BCGImmSD ///
+ [polioImmInfant]treatment/$polioImmInfantSD ///
+ [vitASuppInfant]treatment/$vitASuppInfantSD )

* Col 2: Under 1 year: N = 827
mysureg (DPTImm treatment villagen daysNoPwr2004 sepMatUnit lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(BCGImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(polioImm treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(vitASupp treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
if ageInMonths<13, vce(robust)
foreach var in DPTImm BCGImm polioImm vitASupp {
    sum `var' if treatment==0 & ageInMonths<13
    global `var'SD = r(sd)
}
lincom (1/4)*([DPTImm]treatment/$DPTImmSD ///
+ [BCGImm]treatment/$BCGImmSD ///
+ [polioImm]treatment/$polioImmSD ///
+ [vitASupp]treatment/$vitASuppSD )

* Col 3: 1 year: N = 875
mysureg (measlesImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///

```

```

totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(DPTImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(BCGImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(polioImm treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(vitASupp treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
if ageInMonths>12 & ageInMonths<25, cluster(hfcode)
foreach var in measlesImm DPTImm BCGImm polioImm vitASupp {
sum `var' if treatment==0 & ageInMonths>12 &
ageInMonths<25
global `var'SD = r(sd)
}
lincom (1/5)*([measlesImm]treatment/$measlesImmSD ///
+ [DPTImm]treatment/$DPTImmSD ///
+ [BCGImm]treatment/$BCGImmSD ///
+ [polioImm]treatment/$polioImmSD ///
+ [vitASupp]treatment/$vitASuppSD )

* Col 4: 2 years: N = 871
mysureg (measlesImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(DPTImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(BCGImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(polioImm treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(vitASupp treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
if ageInMonths>24 & ageInMonths<37, cluster(hfcode)
foreach var in measlesImm DPTImm BCGImm polioImm vitASupp {

```

```

sum `var' if treatment==0 & ageInMonths>24 &
ageInMonths<37

global `var'SD = r(sd)
}
lincom (1/5)*([measlesImm]treatment/$measlesImmSD ///
+ [DPTImm]treatment/$DPTImmSD ///
+ [BCGImm]treatment/$BCGImmSD ///
+ [polioImm]treatment/$polioImmSD ///
+ [vitASupp]treatment/$vitASuppSD )

* Col 5: 3 years: N = 893
mysureg (measlesImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(DPTImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(BCGImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(polioImm treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(vitASupp treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
if ageInMonths>36 & ageInMonths<49, vce(robust)
foreach var in measlesImm DPTImm BCGImm polioImm vitASupp {
sum `var' if treatment==0 & ageInMonths>36 &
ageInMonths<49

global `var'SD = r(sd)
}
lincom (1/5)*([measlesImm]treatment/$measlesImmSD ///
+ [DPTImm]treatment/$DPTImmSD ///
+ [BCGImm]treatment/$BCGImmSD ///
+ [polioImm]treatment/$polioImmSD ///
+ [vitASupp]treatment/$vitASuppSD )

* Col 6: 4 years: N = 315
mysureg (measlesImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(DPTImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///

```

```

                                (BCGImm treatment villagen daysNoPwr2004 sepMatUnit lndist
///
                                totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
                                (polioImm treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
                                totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
                                (vitASupp treatment villagen daysNoPwr2004 sepMatUnit
lndist ///
                                totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
                                if ageInMonths>48 & ageInMonths<61, cluster(hfcode)
                                foreach var in measlesImm DPTImm BCGImm polioImm vitASupp {
                                sum `var' if treatment==0 & ageInMonths>48 &
ageInMonths<61
                                global `var'SD = r(sd)
                                }
                                lincom (1/5)*([measlesImm]treatment/$measlesImmSD ///
                                + [DPTImm]treatment/$DPTImmSD ///
                                + [BCGImm]treatment/$BCGImmSD ///
                                + [polioImm]treatment/$polioImmSD ///
                                + [vitASupp]treatment/$vitASuppSD )

```

** TABLE 11 - Diff-in-diff approach, by collapsing down to facility level

** Facility-level averages of immunizations, by cohort - 2004

```

* NB 2004
use "Modified\Immunizations2004_wTx.dta", clear
keep if ageInMonths<3
collapse treatment polioImmInfant DPTImmInfant BCGImm vitASuppInfant,
by(hfcode)
gen year=2004
save "Modified\FacLevelImmNB_2004.dta", replace

* Under 1 year 2004
use "Modified\Immunizations2004_wTx.dta", clear
keep if ageInMonths<13
collapse treatment polioImm DPTImm BCGImm vitASupp, by(hfcode)
gen year=2004
save "Modified\FacLevelImmUnder1_2004.dta", replace

```

** Facility-level averages of immunizations, by cohort - 2006

```

* set up 2006 imm file
use "Modified\HF2004.dta", clear
keep treatment hfcode
sort hfcode
merge 1:m hfcode using "Modified\Immunizations2006.dta"
capture drop _merge
save "Modified\Immunizations2006_wTx.dta", replace

```

```

* NB 2006
use "Modified\Immunizations2006_wTx.dta", clear
keep if ageInMonths<3
collapse treatment measlesImm polioImmInfant DPTImmInfant BCGImm
vitASuppInfant, by(hfcode)
gen year=2006
save "Modified\FacLevelImmNB_2006.dta", replace

* Under 1 year 2006
use "Modified\Immunizations2006_wTx.dta", clear
keep if ageInMonths<13
collapse treatment DPTImm BCGImm polioImm vitASupp, by(hfcode)
gen year=2006
save "Modified\FacLevelImmUnder1_2006.dta", replace

** DIFF-IN-DIFF ESTIMATIONS, BY COHORT (for first two cohorts, that are
reasonable comparisons)

* NEWBORN
use "Modified\FacLevelImmNB_2004.dta", clear
append using "Modified\FacLevelImmNB_2006.dta"

tab hfcode, gen(hf)
gen year06=year==2006
gen txAnd06 = treatment*year06

mysureg (DPTImmInfant txAnd06 year06 hf2-hf50) ///
        (BCGImm txAnd06 year06 hf2-hf50) ///
        (polioImmInfant txAnd06 year06 hf2-hf50) ///
        (vitASuppInfant txAnd06 year06 hf2-hf50)

foreach var in DPTImmInfant BCGImm polioImmInfant vitASuppInfant {
    sum `var' if treatment==0 & year==2006
    global `var'SD = r(sd)
}
lincom (1/4)*([DPTImmInfant]txAnd06/$DPTImmInfantSD ///
+ [BCGImm]txAnd06/$BCGImmSD ///
+ [polioImmInfant]txAnd06/$polioImmInfantSD ///
+ [vitASuppInfant]txAnd06/$vitASuppInfantSD )

* UNDER 1 YEAR
use "Modified\FacLevelImmUnder1_2004.dta", clear
append using "Modified\FacLevelImmUnder1_2006.dta"

tab hfcode, gen(hf)
gen year06=year==2006
gen txAnd06 = treatment*year06

mysureg (DPTImm txAnd06 year06 hf2-hf50) ///
        (BCGImm txAnd06 year06 hf2-hf50) ///
        (polioImm txAnd06 year06 hf2-hf50) ///
        (vitASupp txAnd06 year06 hf2-hf50)
foreach var in DPTImm BCGImm polioImm vitASupp {

```

```

        sum `var' if treatment==0 & year==2006
        global `var'SD = r(sd)
    }
    lincom (1/4)*([DPTImm]txAnd06/$DPTImmSD ///
+ [BCGImm]txAnd06/$BCGImmSD ///
+ [polioImm]txAnd06/$polioImmSD ///
+ [vitASupp]txAnd06/$vitASuppSD )

```

** TABLE 12 - Redoing Table 6 with control for prior CBO presence

* T12: Col 1-2

```

* control vars
use "Modified\HF2004.dta", clear
gen lndist = ln(distNearestPubProv) // update Aug 2015
keep treatment villagen daysNoPwr2004 sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    hdcode hfcode
sort hfcode
capture drop _merge

merge 1:m hfcode using "Modified\numbirths.dta"
capture drop _merge
merge m:1 hfcode using "Modified\HF2006.dta"

gen CBOTx = CBOBefore*treatment

reg numBirthsOverall treatment CBOBefore villagen daysNoPwr2004
sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hdcode, robust cluster(hfcode)
test treatment CBOBefore

reg numBirthsOverall treatment CBOBefore CBOTx villagen daysNoPwr2004
sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hdcode, robust cluster(hfcode)
test CBOBefore CBOTx
test treatment CBOBefore CBOTx

sum numBirthsOverall if treatment==0

* T12: Col 3-4
set more off
use "Modified\HF2004.dta", clear

keep treatment villagen daysNoPwr2004 sepMatUnit ///
    distNearestPubProv totalBelowAlevel drankSafely2004 avgQuiRecd
///
    hdcode hfcode
sort hfcode
merge 1:m hfcode using "Modified\HH2006.dta"

```

```

capture drop _merge
merge m:1 hfcode using "Modified\HF2006.dta"
gen pregnant = s7q1==1
gen lndist = ln(distNearestPubProv)
gen CBOTx = CBOBefore*treatment

reg pregnant treatment CBOBefore villagen daysNoPwr2004 sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hfcode, robust cluster(hfcode)
test treatment CBOBefore

reg pregnant treatment CBOBefore CBOTx villagen daysNoPwr2004 sepMatUnit
///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hfcode, robust cluster(hfcode)
test CBOBefore CBOTx
test treatment CBOBefore CBOTx

sum pregnant if treatment==0

* T12: Col 5-6
set more off
use "Modified\HF2004.dta", clear
keep treatment villagen daysNoPwr2004 sepMatUnit ///
    distNearestPubProv totalBelowAlevel drankSafely2004 avgQuiRecd
///
    hfcode hfcode
sort hfcode
merge 1:1 hfcode using "Modified\U5DeathRateByHF.dta"
capture drop _merge
merge 1:1 hfcode using "Modified\HF2006.dta"
gen lndist = ln(distNearestPubProv)
gen CBOTx = CBOBefore*treatment

reg deathRatePer1000 treatment CBOBefore villagen daysNoPwr2004
sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hfcode, robust
test treatment CBOBefore

reg deathRatePer1000 treatment CBOBefore CBOTx villagen daysNoPwr2004
sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hfcode, robust
sum deathRatePer1000 if treatment==0

test CBOBefore CBOTx
test treatment CBOBefore CBOTx

* T12: Col 7
set more off
use "Modified\HF2004.dta", clear
keep treatment villagen daysNoPwr2004 sepMatUnit ///
```

```

        distNearestPubProv totalBelowAlevel drankSafely2004 avgQuiRecd
///
        hrcode hrcode
sort hrcode
merge 1:m hrcode using "Modified\Table6Col4.dta"

gen lndist = ln(distNearestPubProv)
capture drop _merge
merge m:1 hrcode using "Modified\HF2006.dta"
reg death CBO underOneT oneToTwoT twoToThreeT threeToFourT fourToFiveT
///
        underOne oneToTwo twoToThree threeToFour fourToFive ///
        villagen daysNoPwr2004 sepMatUnit ///
        lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
        i.hrcode, robust cluster(hrcode)
sum death if treatment==0

* T12: Cols 8-11
set more off
use "Modified\HF2004.dta", clear
keep treatment villagen daysNoPwr2004 sepMatUnit ///
        distNearestPubProv totalBelowAlevel drankSafely2004 avgQuiRecd
///
        hrcode hrcode
sort hrcode
merge 1:m hrcode using "Modified\Table6Cols56.dta"
capture drop _merge
merge m:1 hrcode using "Modified\HF2006.dta"
gen lndist=ln(distNearestPubProv)
gen CBOTx = CBOBefore*treatment

* Col 8
reg WAZ treatment CBOBefore villagen daysNoPwr2004 sepMatUnit ///
        lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
        i.hrcode ///
        if ageInMonths < 18 & WAZ > -4.5 & WAZ < 4.5 & weight < 12 ///
        , robust cluster(hrcode)
test treatment CBOBefore

* Col 9
reg WAZ treatment CBOBefore CBOTx villagen daysNoPwr2004 sepMatUnit ///
        lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
        i.hrcode ///
        if ageInMonths < 18 & WAZ > -4.5 & WAZ < 4.5 & weight < 12 ///
        , robust cluster(hrcode)
test CBOBefore CBOTx
test treatment CBOBefore CBOTx

* Col 10
reg WAZ treatment CBOBefore CBOTx lnAge female villagen daysNoPwr2004
sepMatUnit ///
        lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
        i.hrcode ///

```



```

        if ageInMonths < 18 & WAZ > -4.5 & WAZ < 4.5 & weight < 12 ///
        , robust cluster(hfcode)
    test treatment CBOBefore

* Col 11
    reg WAZ treatment CBOBefore CBOTx lnAge female villagen daysNoPwr2004
sepMatUnit ///
        lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
        i.hfcode ///
        if ageInMonths < 18 & WAZ > -4.5 & WAZ < 4.5 & weight < 12 ///
        , robust cluster(hfcode)
    sum WAZ if treatment==0 & ageInMonths < 18 & WAZ > -4.5 & WAZ < 4.5 &
weight < 12
    test CBOBefore CBOTx
    test treatment CBOBefore CBOTx

```

**** TABLE 13 - Section 4.4 Process Measures**

```

* Col 1: D in D on average number of outreach visits per month
use "Modified\HF2004.dta", clear
gen year=2004
    keep hfcode treatment year avgOutreach
    save "temp\Outreach.dta", replace
use "Modified\HF2006.dta", clear

```

```

* only use Sept - Dec to be comparable with baseline
egen avgOutreach = rowmean(hs4q16c hs4q16d hs4q16e hs4q16f)
keep hfcode treatment year avgOutreach
append using "temp\Outreach.dta", force

```

```

gen year06=year==2006
gen txAnd06 = treatment*year06
reg avgOutreach txAnd06 year06 i.hfcode, robust
sum avgOutreach if treatment==0 & year==2004

```

```

* Col 2: OLS on program awareness
use "Modified\HH2006.dta", clear
merge m:1 hfcode using "Modified\HF2004.dta"

```

```

gen lndist = ln(distNearestPubProv)

```

```

gen awareOfCBM = s6q19==1 if s6q19!=.
reg awareOfCBM treatment villagen daysNoPwr2004 sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hfcode, robust cluster(hfcode)
sum awareOfCBM if treatment==0

```

***** APPENDIX *****

*** APPENDIX TABLE 1 - Diff-in-diff approach to imm, by collapsing down to facility level

```

** Facility-level averages of immunizations, by cohort - 2004

    * NB 2004 - done above

    * Under 1 year 2004 - done above

    * 1 year 2004 (for appendix)
    use "Modified\Immunizations2004_wTx.dta", clear
    keep if ageInMonths>12 & ageInMonths<25
    collapse treatment measlesImm DPTImm BCGImm polioImm vitASupp,
by(hfcode)
    gen year=2004
    save "Modified\FacLevelImm1Year_2004.dta", replace

    * 2 years 2004 (for appendix)
    use "Modified\Immunizations2004_wTx.dta", clear
    keep if ageInMonths>24 & ageInMonths<37
    collapse treatment measlesImm DPTImm BCGImm polioImm vitASupp,
by(hfcode)
    gen year=2004
    save "Modified\FacLevelImm2Year_2004.dta", replace

    * 3 years 2004 (for appendix)
    use "Modified\Immunizations2004_wTx.dta", clear
    keep if ageInMonths>36 & ageInMonths<49
    collapse treatment measlesImm DPTImm BCGImm polioImm vitASupp,
by(hfcode)
    gen year=2004
    save "Modified\FacLevelImm3Year_2004.dta", replace

    * 4 years 2004 (for appendix)
    use "Modified\Immunizations2004_wTx.dta", clear
    keep if ageInMonths>48 & ageInMonths<61
    collapse treatment measlesImm DPTImm BCGImm polioImm vitASupp,
by(hfcode)
    gen year=2004
    save "Modified\FacLevelImm4Year_2004.dta", replace

```

```

** Facility-level averages of immunizations, by cohort - 2006

    * NB 2006 - done above

    * Under 1 year 2006 - done above

    * 1 year 2004 (for appendix)
    use "Modified\Immunizations2006_wTx.dta", clear
    keep if ageInMonths>12 & ageInMonths<25
    collapse treatment measlesImm DPTImm BCGImm polioImm vitASupp,
by(hfcode)
    gen year=2006
    save "Modified\FacLevelImm1Year_2006.dta", replace

    * 2 years 2004 (for appendix)

```

```

        use "Modified\Immunizations2006_wTx.dta", clear
        keep if ageInMonths>24 & ageInMonths<37
        collapse treatment measlesImm DPTImm BCGImm polioImm vitASupp,
by(hfcode)
        gen year=2006
        save "Modified\FacLevelImm2Year_2006.dta", replace

        * 3 years 2004 (for appendix)
        use "Modified\Immunizations2006_wTx.dta", clear
        keep if ageInMonths>36 & ageInMonths<49
        collapse treatment measlesImm DPTImm BCGImm polioImm vitASupp,
by(hfcode)
        gen year=2006
        save "Modified\FacLevelImm3Year_2006.dta", replace

        * 4 years 2004 (for appendix)
        use "Modified\Immunizations2006_wTx.dta", clear
        keep if ageInMonths>48 & ageInMonths<61
        collapse treatment measlesImm DPTImm BCGImm polioImm vitASupp,
by(hfcode)
        gen year=2006
        save "Modified\FacLevelImm4Year_2006.dta", replace

        ** DIFF-IN-DIFF ESTIMATIONS, BY COHORT (for first two cohorts, that are
        reasonable comparisons; rest are included in appendix)

        * NEWBORN - done above

        * UNDER 1 YEAR - done above

        * 1 YEAR
        use "Modified\FacLevelImm1Year_2004.dta", clear
        append using "Modified\FacLevelImm1Year_2006.dta"

        tab hfcode, gen(hf)
        gen year06=year==2006
        gen txAnd06 = treatment*year06

        mysureg (measlesImm txAnd06 year06 hf2-hf50) ///
                (DPTImm txAnd06 year06 hf2-hf50) ///
                (BCGImm txAnd06 year06 hf2-hf50) ///
                (polioImm txAnd06 year06 hf2-hf50) ///
                (vitASupp txAnd06 year06 hf2-hf50)
        foreach var in measlesImm DPTImm BCGImm polioImm vitASupp {
                sum `var' if treatment==0 & year==2006
                global `var'SD = r(sd)
        }
        lincom (1/5)*([measlesImm]txAnd06/$measlesImmSD ///
                + [DPTImm]txAnd06/$DPTImmSD ///
                + [BCGImm]txAnd06/$BCGImmSD ///
                + [polioImm]txAnd06/$polioImmSD ///
                + [vitASupp]txAnd06/$vitASuppSD )

```

```

* 2 YEARS
use "Modified\FacLevelImm2Year_2004.dta", clear
append using "Modified\FacLevelImm2Year_2006.dta"

tab hfcode, gen(hf)
gen year06=year==2006
gen txAnd06 = treatment*year06

mysureg (measlesImm txAnd06 year06 hf2-hf50) ///
        (DPTImm txAnd06 year06 hf2-hf50) ///
        (BCGImm txAnd06 year06 hf2-hf50) ///
        (polioImm txAnd06 year06 hf2-hf50) ///
        (vitASupp txAnd06 year06 hf2-hf50)
foreach var in measlesImm DPTImm BCGImm polioImm vitASupp {
    sum `var' if treatment==0 & year==2006
    global `var'SD = r(sd)
}

lincom (1/5)*([measlesImm]txAnd06/$measlesImmSD ///
+ [DPTImm]txAnd06/$DPTImmSD ///
+ [BCGImm]txAnd06/$BCGImmSD ///
+ [polioImm]txAnd06/$polioImmSD ///
+ [vitASupp]txAnd06/$vitASuppSD )

* 3 YEARS
use "Modified\FacLevelImm3Year_2004.dta", clear
append using "Modified\FacLevelImm3Year_2006.dta"

tab hfcode, gen(hf)
gen year06=year==2006
gen txAnd06 = treatment*year06

mysureg (measlesImm txAnd06 year06 hf2-hf50) ///
        (DPTImm txAnd06 year06 hf2-hf50) ///
        (BCGImm txAnd06 year06 hf2-hf50) ///
        (polioImm txAnd06 year06 hf2-hf50) ///
        (vitASupp txAnd06 year06 hf2-hf50)
foreach var in measlesImm DPTImm BCGImm polioImm vitASupp {
    sum `var' if treatment==0 & year==2006
    global `var'SD = r(sd)
}

lincom (1/5)*([measlesImm]txAnd06/$measlesImmSD ///
+ [DPTImm]txAnd06/$DPTImmSD ///
+ [BCGImm]txAnd06/$BCGImmSD ///
+ [polioImm]txAnd06/$polioImmSD ///
+ [vitASupp]txAnd06/$vitASuppSD )

* 4 YEARS
use "Modified\FacLevelImm4Year_2004.dta", clear
append using "Modified\FacLevelImm4Year_2006.dta"

tab hfcode, gen(hf)

```

```

gen year06=year==2006
gen txAnd06 = treatment*year06

mysureg (measlesImm txAnd06 year06 hf2-hf50) ///
        (DPTImm txAnd06 year06 hf2-hf50) ///
        (BCGImm txAnd06 year06 hf2-hf50) ///
        (polioImm txAnd06 year06 hf2-hf50) ///
        (vitASupp txAnd06 year06 hf2-hf50)
foreach var in measlesImm DPTImm BCGImm polioImm vitASupp {
    sum `var' if treatment==0 & year==2006
    global `var'SD = r(sd)
}
lincom (1/5)*([measlesImm]txAnd06/$measlesImmSD ///
+ [DPTImm]txAnd06/$DPTImmSD ///
+ [BCGImm]txAnd06/$BCGImmSD ///
+ [polioImm]txAnd06/$polioImmSD ///
+ [vitASupp]txAnd06/$vitASuppSD )

```

**** TABLE 13 - Section 4.4 Process Measures**

```

* Col 1: D in D on average number of outreach visits per month
use "Modified\HF2004.dta", clear
gen year=2004
    keep hfcode treatment year avgOutreach
    save "temp\Outreach.dta", replace
use "Modified\HF2006.dta", clear

* only use Sept - Dec to be comparable with baseline
egen avgOutreach = rowmean(hs4q16c hs4q16d hs4q16e hs4q16f)
keep hfcode treatment year avgOutreach
append using "temp\Outreach.dta", force

gen year06=year==2006
gen txAnd06 = treatment*year06
reg avgOutreach txAnd06 year06 i.hfcode, robust
sum avgOutreach if treatment==0 & year==2004

* Col 2: OLS on program awareness
use "Modified\HH2006.dta", clear
merge m:1 hfcode using "Modified\HF2004.dta"

gen lndist = ln(distNearestPubProv)

gen awareOfCBM = s6q19==1 if s6q19!=.
reg awareOfCBM treatment villagen daysNoPwr2004 sepMatUnit ///
    lndist totalBelowAlevel drankSafely2004 avgQuiRecd ///
    i.hfcode, robust cluster(hfcode)
sum awareOfCBM if treatment==0

```

***** APPENDIX TABLE 2**

```

** Immunizations at baseline, including CBO presence
set more off

```

```

use "Modified\HF2004.dta", clear
keep treatment villagen daysNoPwr2004 sepMatUnit ///
    distNearestPubProv totalBelowAlevel drankSafely2004 avgQuiRecd
///
    hdcode hfcode
sort hfcode
merge 1:1 hfcode using "temp/HF_CBO.dta"
capture drop _merge
merge 1:m hfcode using "Modified\Immunizations2004_wTx.dta"

gen lndist = ln(distNearestPubProv) // added Aug 2015

* Col 1: Newborns (< 3 months): N = 127
tab hdcode, gen(dist)
mysureg (DPTImmInfant treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
    totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
    (BCGImm treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
    totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
    (polioImmInfant treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
    totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
    (vitASuppInfant treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
    totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
    if ageInMonths<3, cluster(hfcode)
foreach var in DPTImmInfant BCGImm polioImmInfant vitASuppInfant {
    sum `var' if treatment==0 & ageInMonths<3
    global `var'SD = r(sd)
}

lincom (1/4)*([DPTImmInfant]treatment/$DPTImmInfantSD ///
    + [BCGImm]treatment/$BCGImmSD ///
    + [polioImmInfant]treatment/$polioImmInfantSD ///
    + [vitASuppInfant]treatment/$vitASuppInfantSD )

lincom (1/4)*([DPTImmInfant]CBOBefore/$DPTImmInfantSD ///
    + [BCGImm]CBOBefore/$BCGImmSD ///
    + [polioImmInfant]CBOBefore/$polioImmInfantSD ///
    + [vitASuppInfant]CBOBefore/$vitASuppInfantSD )

* Col 2: Under 1 year: N = 827
mysureg (DPTImm treatment CBOBefore villagen daysNoPwr2004 sepMatUnit
lndist ///

```

```

totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(BCGImm treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(polioImm treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(vitASupp treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
if ageInMonths<13, vce(robust)
foreach var in DPTImm BCGImm polioImm vitASupp {
    sum `var' if treatment==0 & ageInMonths<13
    global `var'SD = r(sd)
}
lincom (1/4)*([DPTImm]treatment/$DPTImmSD ///
+ [BCGImm]treatment/$BCGImmSD ///
+ [polioImm]treatment/$polioImmSD ///
+ [vitASupp]treatment/$vitASuppSD )

lincom (1/4)*([DPTImm]CBOBefore/$DPTImmSD ///
+ [BCGImm]CBOBefore/$BCGImmSD ///
+ [polioImm]CBOBefore/$polioImmSD ///
+ [vitASupp]CBOBefore/$vitASuppSD )

* Col 3: 1 year: N = 875
mysureg (measlesImm treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(DPTImm treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(BCGImm treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(polioImm treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(vitASupp treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
if ageInMonths>12 & ageInMonths<25, cluster(hfcode)
foreach var in measlesImm DPTImm BCGImm polioImm vitASupp {

```

```

                                sum `var' if treatment==0 & ageInMonths>12 &
ageInMonths<25
                                global `var'SD = r(sd)
                                }
                                lincom (1/5)*([measlesImm]treatment/$measlesImmSD ///
                                + [DPTImm]treatment/$DPTImmSD ///
                                + [BCGImm]treatment/$BCGImmSD ///
                                + [polioImm]treatment/$polioImmSD ///
                                + [vitASupp]treatment/$vitASuppSD )

.

                                lincom (1/5)*([measlesImm]CBOBefore/$measlesImmSD ///
                                + [DPTImm]CBOBefore/$DPTImmSD ///
                                + [BCGImm]CBOBefore/$BCGImmSD ///
                                + [polioImm]CBOBefore/$polioImmSD ///
                                + [vitASupp]CBOBefore/$vitASuppSD )

* Col 4: 2 years: N = 871
                                mysureg (measlesImm treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
                                totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
                                (DPTImm treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
                                totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
                                (BCGImm treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
                                totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
                                (polioImm treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
                                totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
                                (vitASupp treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
                                totalBelowAlevel drankSafely2004 avgQuiRecd dist2-dist9)
///
                                if ageInMonths>24 & ageInMonths<37, cluster(hfcode)
                                foreach var in measlesImm DPTImm BCGImm polioImm vitASupp {
                                sum `var' if treatment==0 & ageInMonths>24 &
ageInMonths<37
                                global `var'SD = r(sd)
                                }
                                lincom (1/5)*([measlesImm]treatment/$measlesImmSD ///
                                + [DPTImm]treatment/$DPTImmSD ///
                                + [BCGImm]treatment/$BCGImmSD ///
                                + [polioImm]treatment/$polioImmSD ///
                                + [vitASupp]treatment/$vitASuppSD )

```



```

lincom (1/5)*([measlesImm]CBOBefore/$measlesImmSD ///
+ [DPTImm]CBOBefore/$DPTImmSD ///
+ [BCGImm]CBOBefore/$BCGImmSD ///
+ [polioImm]CBOBefore/$polioImmSD ///
+ [vitASupp]CBOBefore/$vitASuppSD )

* Col 5: 3 years: N = 893
mysureg (measlesImm treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
totalBelowALevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(DPTImm treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
totalBelowALevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(BCGImm treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
totalBelowALevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(polioImm treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
totalBelowALevel drankSafely2004 avgQuiRecd dist2-dist9)
///
(vitASupp treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
totalBelowALevel drankSafely2004 avgQuiRecd dist2-dist9)
///
if ageInMonths>36 & ageInMonths<49, vce(robust)
foreach var in measlesImm DPTImm BCGImm polioImm vitASupp {
sum `var' if treatment==0 & ageInMonths>36 &
ageInMonths<49
global `var'SD = r(sd)
}
lincom (1/5)*([measlesImm]treatment/$measlesImmSD ///
+ [DPTImm]treatment/$DPTImmSD ///
+ [BCGImm]treatment/$BCGImmSD ///
+ [polioImm]treatment/$polioImmSD ///
+ [vitASupp]treatment/$vitASuppSD )

lincom (1/5)*([measlesImm]CBOBefore/$measlesImmSD ///
+ [DPTImm]CBOBefore/$DPTImmSD ///
+ [BCGImm]CBOBefore/$BCGImmSD ///
+ [polioImm]CBOBefore/$polioImmSD ///
+ [vitASupp]CBOBefore/$vitASuppSD )

```

```

* Col 6: 4 years: N = 315
  msysureg (measlesImm treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
              totalBelowALevel drankSafely2004 avgQuiRecd dist2-dist9)
///
              (DPTImm treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
              totalBelowALevel drankSafely2004 avgQuiRecd dist2-dist9)
///
              (BCGImm treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
              totalBelowALevel drankSafely2004 avgQuiRecd dist2-dist9)
///
              (polioImm treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
              totalBelowALevel drankSafely2004 avgQuiRecd dist2-dist9)
///
              (vitASupp treatment CBOBefore villagen daysNoPwr2004
sepMatUnit lndist ///
              totalBelowALevel drankSafely2004 avgQuiRecd dist2-dist9)
///
              if ageInMonths>48 & ageInMonths<61, cluster(hfcode)
  foreach var in measlesImm DPTImm BCGImm polioImm vitASupp {
    sum `var' if treatment==0 & ageInMonths>48 &
ageInMonths<61
    global `var'SD = r(sd)
  }
  lincom (1/5)*([measlesImm]treatment/$measlesImmSD ///
    + [DPTImm]treatment/$DPTImmSD ///
    + [BCGImm]treatment/$BCGImmSD ///
    + [polioImm]treatment/$polioImmSD ///
    + [vitASupp]treatment/$vitASuppSD )

  lincom (1/5)*([measlesImm]CBOBefore/$measlesImmSD ///
    + [DPTImm]CBOBefore/$DPTImmSD ///
    + [BCGImm]CBOBefore/$BCGImmSD ///
    + [polioImm]CBOBefore/$polioImmSD ///
    + [vitASupp]CBOBefore/$vitASuppSD )

```