

II merge

II.1 read identification files

```
fnids ← grepout("\\\\id", fn)
library(bit64)
```

Read individual identification files in ./1/original/identity.prn, ./2/id.prn, ./3/identification_file.prn, ./4/identification_file.prn.

```
idfiles ← lapply(1:4, function(i) cbind(rd = i, Z[fn %in% fnids][[i]]))
lapply(idfiles, colnames)
```

```
[[1]]
[1] "rd"          "hhid"          "survey"          "gps"          "rname"
[6] "hhh_name"    "g_name"        "religion"        "para"        "village"
[11] "mouza"       "union"         "upazila"         "zila"        "cell"
[16] "e_name"      "tl_name"       "st_day_inter"    "nd_day_inter" "po_name"

[[2]]
[1] "rd"          "hhid"          "surn"
[4] "gpscode"     "gps_north_point" "gps_east_degree"
[7] "gps_east_point" "elevation"      "r_name"
[10] "hhh_name"    "religion"       "other_specify"
[13] "location"    "village"        "village_code"
[16] "union"       "union_code"     "upazila"
[19] "zilla"       "zilla_code"     "hh_id"
[22] "cell_no"     "group_identification" "types_of_support"
[25] "membership_status" "e_name"        "s_name"
[28] "d_1st"       "st_day"         "st_month"
[31] "st_year"     "d_2nd"          "nd_day"
[34] "nd_month"    "nd_year"        "deo_name"
[37] "sign"

[[3]]
[1] "rd"          "hhid"          "surn"
[4] "gpscode"     "gps_north_point" "gps_east_degree"
[7] "gps_east_point" "elevation"      "r_name"
[10] "hhh_name"    "member_mid"     "religion"
[13] "other_specify" "location"        "village"
[16] "union"       "upazila"        "zilla"
[19] "hh_id"       "cell_no"        "support_status"
[22] "intervention_type" "membership_status" "e_name"
[25] "s_name"      "d_1st"          "d_2nd"
[28] "deo_name"    "sign"

[[4]]
[1] "rd"          "id"          "surn"
[4] "gpscode"     "gps_north_point" "gps_east_degree"
[7] "gps_east_point" "elevation"      "r_name"
[10] "hhh_name"    "member_mid"     "religion"
[13] "other_specify" "location"        "village"
[16] "union"       "upazila"        "zilla"
[19] "hh_id"       "cell_no"        "support_status"
[22] "intervention_type" "membership_status" "e_name"
[25] "s_name"      "d_1st"          "st_day"
[28] "st_month"    "st_year"        "d_2nd"
[31] "nd_day"      "nd_month"       "nd_year"
```

```
[34] "deo_name" "sign"
```

```
c(unlist(lapply(idfiles, function(x) any("hh_id" %in% colnames(x)))),
unlist(lapply(idfiles, function(x) any("hhid" %in% colnames(x)))))
```

```
[1] FALSE TRUE TRUE TRUE TRUE TRUE TRUE FALSE
```

```
# in 4th round, hhid was named as id
```

```
setnames(idfiles[[4]], "id", "hhid")
```

```
setnames(idfiles[[1]], c("rname", "tl_name", "zila", "cell"),
c("r_name", "s_name", "zilla", "cell_no"))
```

```
idfiles[[1]][, hh.id := NA]
```

```
# need to convert to characters for too long digits
```

```
#lapply(idfiles, function(x) x[, hhid := asc(hhid)])
```

```
lapply(idfiles, function(x)
```

```
setnames(x, grepout("\\_", colnames(x)), gsub("\\_", ".", grepout("\\_", colnames(x))))
```

```
idf ← do.call("rbind", c(idfiles, fill = T))
```

```
table(duplicated(idf[, .(rd, hh.id)]))
```

```
FALSE TRUE
6338 1600
```

```
table(duplicated(idf[, .(rd, hhid)]))
```

```
FALSE
7938
```

```
idf[, hh.id := NULL]
```

```
idf[hhid == 7042409 | hhid == 7042407, .(rd, hhid, r.name, hhh.name)]
```

```
rd hhid r.name hhh.name
1: 1 7042407 alea unus
2: 1 7042409 sohida asraf
3: 2 7042409 sohida ashraf
4: 2 7042407 alea younus
5: 3 7042409 sohida asraf
6: 3 7042407 alea younus
7: 4 7042407 alea yoonus
8: 4 7042409 sohida asraf
```

```
#idf[, hhid := asn(hhid)]
```

```
setnames(idf, c("r.name", "e.name", "s.name"), c("rname", "ename", "sname"))
```

II.2 consistency of cover page files across rounds

Found: Attrition rate who disappeared by rd 4 is 9%. Judging from HH head names, majority of visited households seem to be the same households. Respondent names change that cannot be explained by typo's. We need to ask why head and respondent names change.

II.2.1 count hhid's

Check how many hhids constitute complete panel.

```
table(table0(idf[, hhid]))
```

1	2	3	4
194	138	556	1450

Check the missingness patterns.

```
idunion ← unique(idf[, hhid])
```

```
idunion ← idunion[order(idunion)]
```

```
for (i in 1:4) assign(paste0("i", i), idunion %in% idfiles[[i]][, hhid])
```

```
iu ← data.table(idunion, i1, i2, i3, i4)
```

```
iu[, exist := ""]
```

```
iu[i1, exist := 1]
```

```
iu[i2, exist := paste0(exist, 2)]
```

```
iu[i3, exist := paste0(exist, 3)]
```

```
iu[i4, exist := paste0(exist, 4)]
```

```
iu[, c("i1", "i2", "i3", "i4") := NULL]
```

```
iu[, exist := factor(exist, levels = c(1, 2, 4, 12, 34, 123, 134, 234, 1234))]
```

```
table(iu[, exist])
```

1	2	4	12	34	123	134	234	1234
69	124	1	27	111	1	53	502	1450

```
setnames(iu, "idunion", "hhid")
```

From rd 2 onwards, membership.status gives old member, new/replaced member, dropped out member, rejected group's member. NA is given in rd1 (confirm this by tabulating rd when membership.status is NA, 1600). Check if missingness pattern is consistent with membership.status.

```
idf[, memstatus := tolower(membership.status)]
```

```
idf[grepl("epl", memstatus), memstatus := "replacement"]
```

```
idf[grepl("new", memstatus), memstatus := "new"]
```

```
idf[grepl("old", memstatus), memstatus := "old"]
```

```
idf[grepl("rej", memstatus), memstatus := "rejected"]
```

```
idf[grepl("dr", memstatus), memstatus := "dropped out"]
```

Merge missingness pattern to idf.

```
setkey(iu, hhid); setkey(idf, hhid, rd)
```

```
idfu ← iu[idf]
```

Last observed rounds.

```
idfu[, last.rd := asn(substr(exist, nchar(asc(exist)), nchar(asc(exist)))),  
by = c("hhid", "rd")]
```

```
(tb.last ← table0(idfu[!duplicated(hhid), .(memstatus, last.rd)]))
```

	last.rd			
memstatus	1	2	3	4
dropped out	0	4	0	8
new	0	36	0	332
old	0	11	0	48
rejected	0	0	0	3
replacement	0	73	0	223
<NA>	69	27	1	1503

Missingness (observed rounds) patterns.

```
table0(idfu[!duplicated(hhid), .(memstatus, exist)])
```

	exist								
memstatus	1	2	4	12	34	123	134	234	1234
dropped out	0	4	0	0	3	0	0	5	0
new	0	36	0	0	0	0	0	332	0
old	0	11	1	0	7	0	0	40	0
rejected	0	0	0	0	3	0	0	0	0
replacement	0	73	0	0	98	0	0	125	0
<NA>	69	0	0	27	0	1	53	0	1450

There are 69 individuals who are last observed in rd 1. They may be drop outs. There are also 151 who are also last seen in rd 2 who may also be drop outs. There is one person last seen in rd 3. All other 2117 are observed in rd 4. If we consider these drop outs as attrition, the attrition rate up to rd 4 is 9%. **There are 250 individuals dropped out eventually.**

```
table0(idfu[!grepl(4, exist), rd])
```

1	2	3
97	152	1

II.2.2 validate if names stay the same in the same hhid

Reshape to see if names differ. I assign 1234 if names are same in all rounds, for respondent names and hh head names.

```
idchk ← reshape(idfu, direction = "wide", idvar = c("hhid", "exist", "last.rd"),
  timevar = "rd", v.names = colnames(idfu)[!grepl("rd|hhid|exist|last.rd", colnames(
idchk[, rname.chk := 0]
idchk[grepl(12, exist) &
  !is.na(rname.1) & !is.na(rname.2) & rname.1 == rname.2,
  rname.chk := 12]
idchk[grepl(23, exist) &
  !is.na(rname.2) & !is.na(rname.3) & rname.2 == rname.3,
  rname.chk := 23]
idchk[grepl(34, exist) &
  !is.na(rname.3) & !is.na(rname.4) & rname.3 == rname.4,
  rname.chk := 34]
idchk[grepl(123, exist) &
  !is.na(rname.1) & !is.na(rname.2) & !is.na(rname.3) &
  rname.1 == rname.2 & rname.2 == rname.3,
  rname.chk := 123]
idchk[grepl(124, exist) &
  !is.na(rname.1) & !is.na(rname.2) & !is.na(rname.4) &
  rname.1 == rname.2 & rname.2 == rname.4,
  rname.chk := 124]
idchk[grepl(134, exist) &
  !is.na(rname.1) & !is.na(rname.3) & !is.na(rname.4) &
  rname.1 == rname.3 & rname.3 == rname.4,
  rname.chk := 134]
idchk[grepl(234, exist) &
  !is.na(rname.2) & !is.na(rname.3) & !is.na(rname.4) &
  rname.2 == rname.3 & rname.3 == rname.4,
  rname.chk := 234]
idchk[grepl(1234, exist) &
```

```

      !is.na(rname.1) & !is.na(rname.2) & !is.na(rname.3) & !is.na(rname.4) &
      rname.1 == rname.2 & rname.2 == rname.3 & rname.3 == rname.4 ,
      rname.chk := 1234]
idchk[, hname.chk := 0]
idchk[grepl(12, exist) &
      !is.na(hhh.name.1) & !is.na(hhh.name.2) & hhh.name.1 == hhh.name.2 ,
      hname.chk := 12]
idchk[grepl(23, exist) &
      !is.na(hhh.name.2) & !is.na(hhh.name.3) & hhh.name.2 == hhh.name.3 ,
      hname.chk := 23]
idchk[grepl(34, exist) &
      !is.na(hhh.name.3) & !is.na(hhh.name.4) & hhh.name.3 == hhh.name.4 ,
      hname.chk := 34]
idchk[grepl(123, exist) &
      !is.na(hhh.name.1) & !is.na(hhh.name.2) & !is.na(hhh.name.3) &
      hhh.name.1 == hhh.name.2 & hhh.name.2 == hhh.name.3 ,
      hname.chk := 123]
idchk[grepl(124, exist) &
      !is.na(hhh.name.1) & !is.na(hhh.name.2) & !is.na(hhh.name.4) &
      hhh.name.1 == hhh.name.2 & hhh.name.2 == hhh.name.4 ,
      hname.chk := 124]
idchk[grepl(134, exist) &
      !is.na(hhh.name.1) & !is.na(hhh.name.3) & !is.na(hhh.name.4) &
      hhh.name.1 == hhh.name.3 & hhh.name.3 == hhh.name.4 ,
      hname.chk := 134]
idchk[grepl(234, exist) &
      !is.na(hhh.name.2) & !is.na(hhh.name.3) & !is.na(hhh.name.4) &
      hhh.name.2 == hhh.name.3 & hhh.name.3 == hhh.name.4 ,
      hname.chk := 234]
idchk[grepl(1234, exist) &
      !is.na(hhh.name.1) & !is.na(hhh.name.2) & !is.na(hhh.name.3) & !is.na(hhh.name.4) &
      hhh.name.1 == hhh.name.2 & hhh.name.2 == hhh.name.3 & hhh.name.3 == hhh.name.4 ,
      hname.chk := 1234]

```

Respondent name consistency across rounds. 0 indicates no same name at all in all 4 rds. The following table shows tabulation of number non-matching cases across 4 rds against their missingness patterns. So there are 49 cases (hhid's) that have all respondent names different across rounds. Some of these cases are just typo's as in 7020202 of Abu Taleb up to rd 2, and Chondro Banu may have taken over as a respondent from rd 3, but we need to confirm if this is the case. rname.1 shows rname in rd 1, rname.2 shows rname in rd 2, and so on.

```
table0(idchk[, .(rname.chk, exist)])
```

	exist								
rname.chk	1	2	4	12	34	123	134	234	1234
0	69	124	1	16	10	0	5	36	49
12	0	0	0	11	0	0	0	0	47
23	0	0	0	0	0	1	0	22	22
34	0	0	0	0	101	0	31	79	212
123	0	0	0	0	0	0	0	0	33
134	0	0	0	0	0	0	17	0	0
234	0	0	0	0	0	0	0	365	448
1234	0	0	0	0	0	0	0	0	639

```
idchk[rname.chk == 0, grepout("hh|exist|rna", colnames(idchk)), with = F]
```

hhid	exist	rname.1	hhh.name.1	rname.2	hhh.name.2	rname.3
------	-------	---------	------------	---------	------------	---------

1:	7010103	1	khoteza	shahin	NA	NA	NA
2:	7010104	1	aminul	aminul	NA	NA	NA
3:	7010113	1	rotna	shajamal	NA	NA	NA
4:	7020202	1234	abu taleb	abu taleb	abutaleb	abutaleb	chondro banu
5:	7020217	1	rahim	rahim	NA	NA	NA

306:	99081712412	2	NA	NA	romesa	tarifulla	NA
307:	99081712413	2	NA	NA	soliton	sattar	NA
308:	99081712416	2	NA	NA	ruzina	goljar	NA
309:	99081712418	2	NA	NA	rezia	rezia	NA
310:	99081912403	34	NA	NA	NA	NA	ambia
	hhh.name.3		rname.4	hhh.name.4	rname.chk		
1:	NA		NA	NA	0		
2:	NA		NA	NA	0		
3:	NA		NA	NA	0		
4:	abu taleb	chondrobanu	abu taleb		0		
5:	NA		NA	NA	0		

306:	NA		NA	NA	0		
307:	NA		NA	NA	0		
308:	NA		NA	NA	0		
309:	NA		NA	NA	0		
310:	alom		mabia	alom	0		

Length of rname.chk should be no shorter than exist if the respondent name matches in all rounds. There are 1011 cases. The cases that two match are 1327.

```
table0(idchk[, .(rname.chk, exist)])
```

exist									
rname.chk	1	2	4	12	34	123	134	234	1234
0	69	124	1	16	10	0	5	36	49
12	0	0	0	11	0	0	0	0	47
23	0	0	0	0	0	1	0	22	22
34	0	0	0	0	101	0	31	79	212
123	0	0	0	0	0	0	0	0	33
134	0	0	0	0	0	0	17	0	0
234	0	0	0	0	0	0	0	365	448
1234	0	0	0	0	0	0	0	0	639

The respondent names are pretty different between rd 1 and 2,3,4. Rds 2-4 show similar names.

```
idchk[rname.chk == 0 & exist == 1234,
```

```
grepout("rname\\.\d", colnames(idchk)), with = F]
```

	rname.1	rname.2	rname.3	rname.4
1:	abu taleb	abutaleb	chondro banu	chondrobanu
2:	shofikul	morsheda	morseda	morsheda
3:	mnoara	monowara	monoawara	monowara
4:	chondrobunu	chondrobanu	chandrabanu	chandra banu
5:	sufiya	sadikur	sufia	sufiya
6:	nowsad	sahida	sahid	saida
7:	foruza	feroza	feroja	feroza
8:	nurul amin	anzumanara	anzuman ara	anzumanara
9:	abdul	fuleara	fulera	fuleara
10:	nur islam	nurjahan	nur jahan	nurjahan
11:	shahor	shahorbanu	shahor banu	shahorbanu
12:	nurnobi	jamela	jomela	jamela
13:	sammisel	reziya	raziya	reziya
14:	fotema	fatama	fatema	fateama
15:	sahed	monoara		monoara
16:	ebrahim	saleha	sahela	saleha

17:	abu soma	maseda	mazeda	maseda
18:	limail	nurjahan	nur jahan	nurjahan
19:	babu	peryin	parvin	parven
20:	korim	salena	selina	selima
21:	omisuddin	nurnahar	nur nahar	nurnahar
22:	romzan ali	sorotvan	.sorotvan	sorotvan
23:	rofikul	nurzahan	nur zahan	nurzahan
24:	sukkur	anju	anzu	anju
25:	ishak	aysa	.asya	aysa
26:	harez	fatema	fatmea	fatema
27:	sheju	monahar	nurnahar	nur nahar
28:	munzorani	monjorani	monju rani	monjurani
29:	tara banu	taravanu	taravabn	taravanu
30:	hakim	kulsom	kulsum	kulsom
31:	rana	seuli	seuly	sheli
32:	jahangir	resma	rasma	resma
33:	mozzafor	samsunahar	samsurnahar	samsunahar
34:	shadarini	shadarani	shada rani	shadarani
35:	sonavan	goleja	sonavan	sonavanu
36:	anoyara	anowara	yesmin	jesmin
37:	ahed	khoteza	khoteja	khoteza
38:	morgina	morzina	morjina	morzina
39:	pinzera	pingira	pinzira	pinjara
40:	kasem	allady	alladt	allady
41:	monjurkadir	sorifa	monjur khadir	monjur kadir
42:	aktar	anjuara	aktar	akter
43:	kafiron	abul hoseen	kafiron.	kafiron
44:	nozma	nazma	najma	nazma
45:	aziz	basi khatun	aziz	basi khatun
46:	safi	zahera	monzuaray	monzuray
47:	gayigun	joygun	joygul	joygun
48:	gorina	zorina	gorina	goina
49:	hawya	nawya	nurul islma	nurul islam
	rname.1	rname.2	rname.3	rname.4

HH head name consistency across rounds. 0 indicates no match at all.

```
table0(idchk[,.(hname.chk, exist)])
```

	exist								
hname.chk	1	2	4	12	34	123	134	234	1234
0	69	124	1	9	6	0	16	45	44
12	0	0	0	18	0	0	0	0	53
23	0	0	0	0	0	1	0	23	24
34	0	0	0	0	105	0	22	105	214
123	0	0	0	0	0	0	0	0	48
134	0	0	0	0	0	0	15	0	0
234	0	0	0	0	0	0	0	329	257
1234	0	0	0	0	0	0	0	0	810

HH head names seem to point to the same person for most of anomalous cases conditional on being observed in all rounds, except the following **131 entries** (below list is constructed by eyeballing). I note that it is possible that HH head name can change depending on whom one asks to. This may be the case when head name differs only in rd 2. There is another possibility that HHs may have split. Another possibility is that enumerators mess up with hhids, which is likely when the contiguous hhids are giving different head names from the same rd.

hname.chk	exist	hhid
0	1234	7020912, 7042706, 7054018, 7116615, 8158812, 8159210, 81710309, 81710417
0	234	9807054316, 99070311702, 99070911619
12	1234	7020604, 7086101, 7116604, 8159114
13	1234	none
14	1234	none
23	1234	7031401, 7031402, 7053911, 7116614, 8147916
23	234	9807137203, 9908169404, 99070511003
24	1234	none
24	234	none
34	1234	7031405, 7031408, 7031616, 7031911, 7042419, 7043719, 7054101, 7054101, 7054215, 7054305, 7054409, 7054411, 7065017, 7086108, 7096307, 7126805, 7127111, 7133011, 7137302, 8147920, 8148304, 8158617, 8169301, 8169507, 8169603, 8169613, 81710201, 81710403, 81710502, 81710511
34	234	9807031612, 9807106513, 9807126820, 9807133513, 9907075414, 9908148101, 9908148503, 9908169402, 98081710308, 99070311706, 99070311707, 99070311709, 99070311710, 99070311711, 99070311712, 99070311715, 99070311717, 99070712709, 99070712710, 99081912419
34	134	7031608, 7043407, 7054316, 7054503, 7133004, 7133513, 8169515
123	1234	none
234	1234	7020214, 7020416, 7020905, 7021002, 7021105, 7021209, 7031403, 7031406, 7031407, 7031409, 7031411, 7031412, 7031413, 7031414, 7031417, 7031418, 7031419, 7031420, 7031519, 7031615, 7031906, 7031913, 7031917, 7031919, 7031920, 7054105, 7064619, 7065016, 7065303, 7065316, 7075720, 7096213, 7127120, 7133018, 7137210, 8147803, 8147812, 8147815, 8147818, 8147820, 8147911, 8147918, 8148210, 8147803, 8147812, 8147815, 8147818, 8147820, 8147911, 8147918, 8148210, 8159218, 8169511, 8169516, 8169518, 8169802, 8169804, 81710215, 81710216, 81710508

In the following output, the first row is hhid, followed by reported head names in rds 1, 2, 3, 4.

```
data.table ::: print.data.table (an.hhh , nrow=200)
```

	V1	V2	V3	V4	V5	V6
1:	7020214	7020416	7020604	7020905	7020912	7021002
2:	asraf	sobur	eman	alom	hasan	china
3:	mojiron	nurjahan	eman	mursida	chondrobanu	moksed
4:	mojiron	nurjahan	sairon	mursida	chandrabanu	moksed
5:	mojiron	nurjahan	eman	mursida	chandra banu	moksed
	V7	V8	V9	V10	V11	V12
1:	7021105	7021209	7031401	7031402	7031403	7031405
2:	soriful	feroz	sohid	joynal	nurul amin	nadcr ali
3:	hamida	mijanur	aziz	kalam	piyarul	sakat
4:	hamida	mijanur	aziz	kalam	piyarul	sakat ali
5:	hamida	mijanur	aziz mia md	kalam mia	piyarul	sakat ali
	V13	V14	V15	V16	V17	V18
1:	7031406	7031407	7031408	7031409	7031411	7031412
2:	mohadur	maynal	sukkur	miter	nurul mia	salam
3:	saiful	sohel	surut zaman	dulal	aynal	hamidul
4:	saiful	sohel	surujjaman	dulal	aynal	hamidul
5:	saiful	sohel	surujjaman	dulal	aynal	hamidul
	V19	V20	V21	V22	V23	V24
1:	7031413	7031414	7031417	7031418	7031419	7031420
2:	nurnobi	hanifpoloan	adum ali	jamal	shafikul	abdul rosid
3:	mannan	sahar ali	fozor ali	hamidul	korim	mijanur
4:	mannan	sahar ali	fozor ali	hamidul	korim	mijanur
5:	mannan	sahar ali	fozor ali	hamidul	korim	mijanur
	V25	V26	V27	V28	V29	V30
1:	7031519	7031608	7031615	7031616	7031906	7031911
2:	afuful	adom	jahanara	sajahan	sortan	shalom
3:	oyadut	NA	alomgir	monoara	hafezur	dulaly
4:	oyadut	ajim	alomgir	jahanara	hafezur	sha alom

5:	oyadut	ajim	alomgir	jahanara	hafezur	sha alom
	V31	V32	V33	V34	V35	V36
1:	7031913	7031917	7031919	7031920	7042419	7042706
2:	rezaul	bisha mia	osman	hafezur rhaman	hanif	moslem
3:	mostafizur	osman	bisha	rezaul	hanifa	feroja
4:	mostafizur	osman	bisha	rezaul	manikjan	moslem
5:	mostafizur	osman	bisha	rezaul	manikjan	moslema
	V37	V38	V39	V40	V41	V42
1:	7043407	7043719	7053911	7054018	7054101	7054105
2:	gadu	limail	sojia	nurnobi	gota	samsul
3:	NA	ismail	sopon	samad	norislam	rahman
4:	jalhaque	sofiqul	sopon	nuru mia	nor islam	rahman
5:	jalhaque	sofiqul	sopna	auru mia	nor islam	rahman
	V43	V44	V45	V46	V47	V48
1:	7054215	7054305	7054316	7054409	7054411	7054503
2:	amirul	hozrot	usob mia	zia	sattar	nabul
3:	amana	behela	NA	bulbuli	anuara	NA
4:	amirul	hozrot	usuf	zia	sattar	momena
5:	amirul	hozrot	usuf	zia	sattar	momena
	V49	V50	V51	V52	V53	V54
1:	7064619	7065016	7065017	7065303	7065316	7075720
2:	asma	mosiur	roshid	sokina	labli	mijanur
3:	sona	sabina	parvin	motaleb	azim	monjurul
4:	sona	sabina	roshid	motaleb	azim	monjurul
5:	sona	sabina	roshid	motaleb	azim	monjurul
	V55	V56	V57	V58	V59	V60
1:	7086101	7086108	7096213	7096307	7116604	7116614
2:	alom	sahalom	milon	asmote	achan	jhoro
3:	alom	mala	minara	asmot	achan	jahurul
4:	sahana	shah alom	minara	momiron	sukni	jahurul
5:	alom	shah alom	minara	momiron	sukne	jahidul
	V61	V62	V63	V64	V65	V66
1:	7116615	7126805	7127111	7127120	7133004	7133011
2:	hasen	anarul	kader	hamid	abul hossen	zohiron
3:	suruton	maleka	fajila	zomila	NA	lal mia
4:	suraton	anarul	fojila	zomila	kasem	lalmia
5:	hasen	anarul	fojila	zomila	kasem	lalmia
	V67	V68	V69	V70	V71	V72
1:	7133018	7133513	7137210	7137302	8147803	8147812
2:	osman	shakina	samsul	kalu	ajiron	sukjan
3:	sarban	NA	sufiyan	mofidul	suruzzaman	monjur
4:	sarban	amiron	sufiyan	kalu mia	suruzzaman	monjur
5:	sarban	amiron	sufiyan	kalu mia	suruzzaman	monjur
	V73	V74	V75	V76	V77	V78
1:	8147815	8147818	8147820	8147911	8147916	8147918
2:	khadem	saiful	amela	pinzera	tariful	amina
3:	rajjak	fulchan	soinuddin	mojid	mahfujur	mohammad ali
4:	rajjak	fulchan	soinuddin	mojid	mahfujur	mohammad ali
5:	rajjak	fulchan	soinuddin	mojid	mahfuzur	mohammad ali
	V79	V80	V81	V82	V83	V84
1:	8147920	8148210	8148304	8158617	8158812	8159114
2:	zarat ali	hazra	mukdud	meherul	sohibor	hamidul
3:	zahad	ayjol	maksud	ummekulsum	jomila	hamidul
4:	zarad	ayjol	laily	maherul	sohibor	monjuri
5:	zarad	ayjol	laily	maherul	sohibar	sahidul
	V85	V86	V87	V88	V89	V90
1:	8159210	8159218	8169301	8169507	8169511	8169515
2:	mojeda	jhumuki	halim mia	sukur ali	chaleha	maher
3:	sa alom	forid	halim	zamila	edris	NA
4:	saalom	forid	fatema	sukur ali	edris	kawsar
5:	sa alom	forid	fatema	sukur ali	edris	kawsar

	V91	V92	V93	V94	V95	V96
1:	8169516	8169518	8169603	8169613	8169802	8169804
2:	gobur ali	komola	somrat	habulullah	khybar	arsad
3:	jobor	omed ali	aysa	habulullah	azada	zohura
4:	jobor	omed ali	somrat	habijur	azada	zohura
5:	jobor	omed ali	somrat	habijur	azada	zohura
	V97	V98	V99	V100	V101	V102
1:	81710201	81710215	81710216	81710309	81710403	81710417
2:	chanmia	ayna	sohor	kasem	zulmut	sofia
3:	feroza	alli hosen	chanbi	sokina	zulmat	nurvanu
4:	chan mia	alli hosen	chanbi	sskina	aysa	sofa
5:	chan mia	alli hosen	chanbi	sokina	aysa	sofia
	V103	V104	V105	V106	V107	V108
1:	81710502	81710508	81710511	9807031612	9807054316	9807106513
2:	najrul	tarachan	belat	NA	NA	NA
3:	moklechor	piyara	belat	dulal	sofiqul	rustom
4:	mokhlechor	piyara	amela	rashid	apel	eyakub
5:	mokhlechor	piyara	amela	rashid	apeal	eyakub
	V109	V110	V111	V112	V113	V114
1:	9807126820	9807133513	9807137203	9907075414	9908148101	9908148503
2:	NA	NA	NA	NA	NA	NA
3:	nurul	amiron	reja	saidur	razia	sahanaj
4:	sakhoyat	resma	reja	yaroon	golzar	bokul
5:	sakhoyat	resma	kabilpur	yaroon	golzar	bokul
	V115	V116	V117	V118	V119	V120
1:	9908169402	9908169404	98081710308	99070311702	99070311706	99070311707
2:	NA	NA	NA	NA	NA	NA
3:	rezaul	lotif	shohidul	mofidul	saidur	tara
4:	anowara	lotif	sokina	ozrul	tara	baser
5:	anowara	samsunnahar	sokina	nozrul	tara	baser
	V121	V122	V123	V124	V125	V126
1:	99070311709	99070311710	99070311711	99070311712	99070311715	99070311717
2:	NA	NA	NA	NA	NA	NA
3:	samad	sukkor	khalik	baser	raza	kasem
4:	kasem	morseda	saidur	raza	khalek	samad
5:	kasem	morseda	saidur	raza	khalek	samad
	V127	V128	V129	V130	V131	
1:	99070511003	99070712709	99070712710	99070911619	99081912419	
2:	NA	NA	NA	NA	NA	
3:	ibrahim	fulmia	sajiron	lalmia	asma	
4:	ibrahim	nesa	sabuddi	lal chan	hasmot	
5:	dholi	nesa	sabuddi	lalchan	hasmot	

```
print(idchk[hname.chk == 0 & exist == 1234,
      grepout("hh", colnames(idchk)), with = F], nrow = 10)
```

	hhid	hhh.name.1	hhh.name.2	hhh.name.3	hhh.name.4
1:	7010111	nur alom	nurglam	nuralom	nur alom
2:	7020302	sonamia	sona mia	sonamia	sona mia
3:	7020810	sekforid	sekfokir	ajim uddin	ajimuddin
4:	7020912	hasan	chondrobanu	chandrabanu	chandra banu
5:	7021119	abdul hak	ab hak	abdur har	ab.hak

40:	81710220	abdur rasid	rasid	rasib	rasid
41:	81710309	kasem	sokina	sskina	sokina
42:	81710404	fozor	fajor	fojor	fajor
43:	81710417	sofia	nurvanu	sofa	sofia
44:	81710518	zulhas	zul has	zulhus	zul-hus

```
print(idchk[hname.chk == 0 & exist == 234,
      grepout("hh", colnames(idchk)), with = F], nrow = 10)
```

	hhid	hhh.name.1	hhh.name.2	hhh.name.3	hhh.name.4
1:	70512803	NA	tajuddin	taj uddin	tajuuddin
2:	9807031806	NA	zinnal	zlnnat	zinnat
3:	9807042011	NA	tokabbar	mia tokkabor	tokkabbor
4:	9807054309	NA	korim	karim	korim
5:	9807054316	NA	sofiqul	apel	apeal

41:	99081711216	NA	sona	sona nia	sona mia
42:	99081711218	NA	poyiruddi	poyruddi	poyiruddi
43:	99081912101	NA	johora	johurul	johura
44:	99081912102	NA	jiyarul	jiyrul	jiyarul
45:	99081912114	NA	shah jamal	shajamal	shahjamal

```
print(idchk[hname.chk == 12 & exist == 1234,
      grepout("hh", colnames(idchk)), with = F], nrow = 10)
```

	hhid	hhh.name.1	hhh.name.2	hhh.name.3	hhh.name.4
1:	7020201	hashmot	hashmot	hasmot	hashmot
2:	7020307	yusuf	yusuf	yousuf	youduf
3:	7020311	ayeb	ayeb	ayub	ayeb
4:	7020318	rosid	rosid	roshid	rosid
5:	7020604	eman	eman	sairon	eman

49:	8169319	sofikul	sofikul	sofeiqul	sofiqul
50:	8169506	joinal	joinal	jonal	joinal
51:	8169705	habizur	habizur	habijur	habizur
52:	8169814	siddik	siddik	siddid	siddik
53:	81710503	bakker	bakker	bakkar	bakker

```
print(idchk[hname.chk == 12 & exist == 123,
      grepout("hh", colnames(idchk)), with = F], nrow = 10)
```

Empty data.table (0 rows) of 5 cols: hhid, hhh.name.1, hhh.name.2, hhh.name.3, hhh.name.4

NULL

```
print(idchk[hname.chk == 13 & exist == 1234,
      grepout("hh", colnames(idchk)), with = F], nrow = 10)
```

Empty data.table (0 rows) of 5 cols: hhid, hhh.name.1, hhh.name.2, hhh.name.3, hhh.name.4

NULL

```
print(idchk[hname.chk == 13 & exist == 134,
      grepout("hh", colnames(idchk)), with = F], nrow = 10)
```

Empty data.table (0 rows) of 5 cols: hhid, hhh.name.1, hhh.name.2, hhh.name.3, hhh.name.4

NULL

```
print(idchk[hname.chk == 14 & exist == 1234,
      grepout("hh", colnames(idchk)), with = F], nrow = 10)
```

Empty data.table (0 rows) of 5 cols: hhid, hhh.name.1, hhh.name.2, hhh.name.3, hhh.name.4

NULL

```
print(idchk[hname.chk == 14 & exist == 134,
      grepout("hh", colnames(idchk)), with = F], nrow = 10)
```

Empty data.table (0 rows) of 5 cols: hhid,hhh.name.1,hhh.name.2,hhh.name.3,hhh.name.4

NULL

```
print(idchk[hname.chk == 23 & exist == 1234,
      grepout("hh", colnames(idchk)), with = F], nrow = 10)
```

	hhid	hhh.name.1	hhh.name.2	hhh.name.3	hhh.name.4
1:	7021313	kurban	md kurban	md kurban	am kurban
2:	7021317	nader	nader hoshan	nader hoshan	nader hoshen
3:	7031401	sohid	aziz	aziz	aziz mia
4:	7031402	joynal	kalam	kalam	md kalam mia
5:	7031705	thayarul	jhajarul	jhajarul	jhajaru;

20:	7133001	abu sama	abusama	abusama	abu sama
21:	7133003	abusaycd	abu sayed	abu sayed	abu sama
22:	7133015	khoda boxh	khoda box	khoda box	khoda boxh
23:	8147916	taraful	mahfujur	mahfujur	mahfuzur
24:	8148202	nurhosen	nur hossain	nur hossain	nur mossain

```
print(idchk[hname.chk == 23 & exist == 234,
      grepout("hh", colnames(idchk)), with = F], nrow = 10)
```

	hhid	hhh.name.1	hhh.name.2	hhh.name.3	hhh.name.4
1:	70512810	NA	mozid	mozid	mojid
2:	9807031802	NA	abutaleb	abutaleb	abu taleb
3:	9807042210	NA	abbas	abbas	aobbas
4:	9807065005	NA	golam	golam	golam hossain
5:	9807065009	NA	md nozir mia	md nozir mia	md.nozir mia

19:	99070310718	NA	sunduri	sunduri	sundari
20:	99070311402	NA	khokan	khokan	khokon
21:	99070311405	NA	taslim	taslim	taslima
22:	99070511003	NA	ibrahim	ibrahim	dholi
23:	99081912417	NA	tara mia	tara mia	taramia

```
print(idchk[hname.chk == 24 & exist == 1234,
      grepout("hh", colnames(idchk)), with = F], nrow = 10)
```

Empty data.table (0 rows) of 5 cols: hhid,hhh.name.1,hhh.name.2,hhh.name.3,hhh.name.4

NULL

```
print(idchk[hname.chk == 24 & exist == 234,
      grepout("hh", colnames(idchk)), with = F], nrow = 10)
```

Empty data.table (0 rows) of 5 cols: hhid,hhh.name.1,hhh.name.2,hhh.name.3,hhh.name.4

NULL

```
print(idchk[hname.chk == 24 & exist == 124,
      grepout("hh", colnames(idchk)), with = F], nrow = 10)
```

Empty data.table (0 rows) of 5 cols: hhid,hhh.name.1,hhh.name.2,hhh.name.3,hhh.name.4

NULL

```
print(idchk[hname.chk == 34 & exist == 1234,  
      grepout("hh", colnames(idchk)), with = F], nrow = 10)
```

	hhid	hhh.name.1	hhh.name.2	hhh.name.3	hhh.name.4
1:	7010101	samuul	samiul	samirul	samirul
2:	7020202	abu taleb	abutaleb	abu taleb	abu taleb
3:	7020206	alim	alim	rabeya	rabeya
4:	7020213	oazed	oazed	oazed mia	oazed mia
5:	7020216	saiful	saiful	jahidul	jahidul

210:	81710413	sohidul	shohidul	sohidul	sohidul
211:	81710415	rahim	rahima	rahim	rahim
212:	81710501	monu mia	monu	monu mia	monu mia
213:	81710502	najrul	moklechur	mokhlechur	mokhlechur
214:	81710511	belat	belat	amela	amela

```
print(idchk[hname.chk == 34 & exist == 234,  
      grepout("hh", colnames(idchk)), with = F], nrow = 10)
```

	hhid	hhh.name.1	hhh.name.2	hhh.name.3	hhh.name.4
1:	70512807	NA	mozammel	mojammel	mojammel
2:	70512819	NA	chattar	cattar	cattar
3:	9807020405	NA	bablu	babul	babul
4:	9807020417	NA	ajijur haque	ajijur	ajijur
5:	9807031505	NA	mogal	mogol	mogol

101:	99081912113	NA	abu bakkor	abu bokkor	abu bokkor
102:	99081912116	NA	tara mia	tara	tara
103:	99081912120	NA	abu bokkor siddik	abubokkor siddik	abubokkor siddik
104:	99081912418	NA	asis	anis	anis
105:	99081912419	NA	asma	hasmot	hasmot

```
print(idchk[hname.chk == 34 & exist == 134,  
      grepout("hh", colnames(idchk)), with = F], nrow = 10)
```

	hhid	hhh.name.1	hhh.name.2	hhh.name.3	hhh.name.4
1:	7020312	ajahar	NA	azahar	azahar
2:	7020412	shofik	NA	sofi	sofi
3:	7031415	abdul	NA	aynal	aynal
4:	7031608	adom	NA	ajim	ajim
5:	7042710	abdulla	NA	abdullah	abdullah

18:	8169515	maher	NA	kawsar	kawsar
19:	8169720	kurrban	NA	kurban	kurban
20:	81710203	sukiron	NA	sukhiron	sukhiron
21:	81710504	zamaz	NA	zamal	zamal
22:	81710517	mogiber	NA	mojibor	mojibor

```
print(idchk[hname.chk == 123 & exist == 1234,  
      grepout("hh", colnames(idchk)), with = F], nrow = 10)
```

	hhid	hhh.name.1	hhh.name.2	hhh.name.3	hhh.name.4
1:	7010105	monju	monju	monju	montu
2:	7010114	amiruddin	amiruddin	amiruddin	amir uddin
3:	7010115	anowar	anowar	anowar	anorar
4:	7020205	sofikul	sofikul	sofikul	sofiqul

```

5:  7020706      momin      momin      momin      momina
---
44: 8169709 nurul amin nurul amin nurul amin nurul-amin
45: 8169712   foridul   foridul   foridul   forida
46: 81710116   saidur   saidur   saidur   saidar
47: 81710516   moin ali   moin ali   moin ali   moni ali
48: 81710520   tara mia   tara mia   tara mia   taramia

```

```

print(idchk[hname.chk == 124 & exist == 1234,
      grepout("hh", colnames(idchk)), with = F], nrow = 10)

```

Empty data.table (0 rows) of 5 cols: hhid, hhh.name.1, hhh.name.2, hhh.name.3, hhh.name.4

NULL

```

print(idchk[hname.chk == 134 & exist == 1234,
      grepout("hh", colnames(idchk)), with = F], nrow = 10)

```

Empty data.table (0 rows) of 5 cols: hhid, hhh.name.1, hhh.name.2, hhh.name.3, hhh.name.4

NULL

```

print(idchk[hname.chk == 234 & exist == 1234,
      grepout("hh", colnames(idchk)), with = F], nrow = 10)

```

```

      hhid hhh.name.1 hhh.name.2 hhh.name.3 hhh.name.4
1:  7010106      rongu      ronju      ronju      ronju
2:  7010108   chan mia      chan      chan      chan
3:  7010117     ahad   ahad ali   ahad ali   ahad ali
4:  7020214     asraf   mojiron   mojiron   mojiron
5:  7020220     yamal     jamal     jamal     jamal
---
253: 81710505   nurislam   nur islam   nur islam   nur islam
254: 81710506   sobdeb     sobder     sobder     sobder
255: 81710508   tarachan   piyara     piyara     piyara
256: 81710512     mokul     mokbul     mokbul     mokbul
257: 81710514   asraful   ashraful   ashraful   ashraful

```

Do the non-typo changes in respondent names indicate that different households are given the same hhid? **We must ask GUK why respondent and head names change across rounds. I will assume that hhids are correct and same households are visited for the same hhid.** We should have never dropped member names from the cover page.

II.3 membership status

membership.status may give erroneous information.

Check memstatus changes.

```

idfu[, memstatus.change := F]
idfu[, memstatus.change := length(unique(memstatus)) > 2, by = "hhid"]
idfu[(memstatus.change), .(hhid, rname, rd, support.status, memstatus)][1:20, ]

```

```

      hhid rname rd support.status memstatus
1: 7020405 jamela 1             NA         NA
2: 7020405 jalema 2             NA dropped out
3: 7020405 jamela 3              0         old
4: 7020405 jamela 4              0         old

```

```

5: 7020417 haoya 1 NA NA
6: 7020417 haoya 2 NA dropped out
7: 7020417 haoya 3 0 old
8: 7020417 haoya 4 0 old
9: 7020714 johura 1 NA NA
10: 7020714 johura 2 NA new
11: 7020714 johura 3 1 old
12: 7020714 johura 4 1 old
13: 7020802 anna 1 NA NA
14: 7020802 anna 2 NA old
15: 7020802 anna 3 1 replacement
16: 7020802 anna 4 1 replacement
17: 7021307 forima 1 NA NA
18: 7021307 forima 2 NA new
19: 7021307 forima 3 1 old
20: 7021307 forima 4 1 old

```

```
idfu[, memstatus.pattern := NULL]
```

There are many who change their memstatus. Most are changed from “new” to “replacement”, “old” or “drop out” to “old”. At earlier rds, they were “new” who eventually became “old”. But they should not start as “dropped out” and become “old”. This indicates that rd 2 memship of being “dropped out” does not give meaningful information.

```
idfu[, memstatus.pattern := paste0(substr(memstatus, 1, 1), collapse = ""), by = "hhid"]
table0(idfu[rd == 1 & memstatus.change, memstatus.pattern])
```

```

NAodod NAooo NAdro NAodr NANoo NANrr NAod NAodd NAoor NAoro NAorr NArdr NArro
2      48      1     12     19      2      1      2      1      3     29      1      2
NAror
7

```

II.4 treatment assignment

Found: Treatment assignment given in support.status does not match the original assignment given in treat. Some households who are assigned to treated remain control in support.status, some assigned to control remain control in support.status.

Cover page has treatment assignment under support.status. 1 is treated, 0 is control.

```
table0(idfu[, .(rd, support.status)])
```

```

support.status
rd      0      1 <NA>
1      0      0 1600
2      0      0 2104
3    399 1718      0
4    397 1720      0

```

```

treatByRd <- cbind(table(idfu[rd==3, .(intervention.type, support.status)]),
  table(idfu[rd==4, .(intervention.type, support.status)]))
colnames(treatByRd) <- paste0(repseq(c("rd3", "rd4"), 2), c("C", "T"))

```

Same across rounds?

```

idchk[, supp34same := support.status.3 == support.status.4]
table0(idchk[, .(support.status.3, supp34same)])

```


	supp34same		
support.status.3	FALSE	TRUE	<NA>
0	2	397	0
1	0	1717	1
<NA>	0	0	221

221 NAs in memstatus.3 or memstatus.4 correspond to 221 attrited individuals (observed in exist = 1, 2, 4, 12), indicating these are attrited individuals (most probably dropped out members who do not wish to be surveyed anymore).

I cannot check if individuals assigned to the controls stay on our data, because if they drop out, they typically drop out at rd 3 when they are assigned to some arm, and once they drop out, their data will be lost in rd 3 and so is their treatment assignment. But I can show how many have dropped out, unconditional on treatment assignment.

```
table0(idfu[rd < 3, .(rd, exist)])
```

	exist						
rd	1	2	12	123	134	234	1234
1	69	0	27	1	53	0	1450
2	0	124	27	1	0	502	1450

Create attrition indicator. hhid 7042520 has missing support.status.2 but observed in rd2. Its support.status.3 is 1. Correcting the indicator.

```
idchk[hhid == 7042520, support.status.2 := 1]
```

Read treatment assignment from individual treatment assignment files in randomization folder. Arms by individual are stored in ./Randomization/Randomization/individual.treatment.assignment.prn. Arms by char are stored in ./Randomization/Randomization/char_arm_assignment.prn.

```
setwd(pathreceived)
ta <- list.files(pattern = ".prn$", recursive = T, full.names = T)
ta <- ta[!grepl("fwd", ta)]
Ta <- lapply(ta, fread)
table0(Ta[[2]][, treat])
```

control	treated
800	800

treat is an indicator variable for everyone in the group. We stratified the subjects into ultra poor (UP) and moderate poor (MP), and assigned 7 out of 14 UPs and 3 out of 6 MPs to treatment. So roughly a half of the subjects are classified as control/treated in treat and it may differ from arm or support.status because members will eventually given a treatment in our stepped wedge design. There may be NAs in treat as the current file does not contain additional households from new chars (requested to Abu-san to add hhid to the randomization file, 2017 Mar 5). Tabulation of support.status in cover page against treat in our assignment file gives major discrepancy that there are more than 500 “control” in assignment file (treat=control) which are reported as “treated” in the cover pages (support.status=1), but this *can be* OK as explained in the above. However, there are other over 100 subjects who are reported as “control” in cover pages (support.status=0) yet “treated” in the assignment file (treat=treated). Need to inquire why there is discrepancy. I will assume that treat is correct.

Merge individual treatmet status to cover page data to check consistency between the two.

```
#lapply(list(idfu, Ta[[2]]), colnames)
setnames(Ta[[2]], "hh_id", "hhid")
Ta[[2]][, treat := factor(treat)]
setkey(idfu, hhid); setkey(Ta[[2]], hhid)
idt <- Ta[[2]][idfu]
```

Here, I find the discrepancy between treatment assignment file and cover page info.

```
table(idt[, .(support.status, treat, rd)], useNA = "ifany")
```

```
, , rd = 1

      treat
support.status control treated <NA>
      0           0         0     0
      1           0         0     0
      <NA>       800       800     0

, , rd = 2

      treat
support.status control treated <NA>
      0           0         0     0
      1           0         0     0
      <NA>       739       739   626

, , rd = 3

      treat
support.status control treated <NA>
      0         178       159    62
      1         570       597   551
      <NA>         0         0     0

, , rd = 4

      treat
support.status control treated <NA>
      0         178       159    60
      1         570       596   554
      <NA>         0         0     0
```

This needs to be inquired to GUK and RAs. Produce the contrast file that shows the discrepancy.

```
treat.problem10 ← idt[rd == last.rd & treat == "treated" & support.status == 0,
  .(hhid, village, rname, hhh.name, support.status, treat,
    ename, sname, memstatus)]
treat.problem01 ← idt[rd == last.rd & treat == "control" & support.status == 1,
  .(hhid, village, rname, hhh.name, support.status, treat,
    ename, sname, memstatus)]
print(treat.problem10, nrow = 10)
```

```
      hhid      village  rname  hhh.name support.status  treat  ename
1:  7020405      dakatia  jamela   jamela           0 treated bablu
2:  7020412      dakatia  behula    sofi           0 treated rafiq
3:  7020417      dakatia  haoya   haoya           0 treated rafiq
4:  7020905  maghuri ghat mursida  mursida           0 treated kamal
5:  7031508 east khatiamari sabiya   mozid           0 treated lipi
---
155: 81710218      dhulauri  aduri  ata uddin           0 treated jasim
156: 81710219      dhulauri  moriom   Abdul           0 treated jasim
157: 81710220      dhulauri  morgina  rasid           0 treated bidhan
158: 81710308      member para  mohura  mohura           0 treated jasim
159: 81710513      zalchira para  rajina  aminur           0 treated kamal
      sname  memstatus
1: palash      old
2: palash      old
```

```

3: palash      old
4: palash      old
5: palash      old
---
155: palash dropped out
156: palash dropped out
157: palash dropped out
158: palash      old
159: palash      old

```

```
print(treat.problem01 , nrow = 10)
```

```

      hhid      village      rname hhh.name support.status      treat ename
1:   7010105    bochagari    jamira    montu           1 control bablu
2:   7010106    bochagari     lipi    ronju           1 control bablu
3:   7010107    bochagari    hasna    rafiq           1 control bablu
4:   7010108    bochagari     asma     chan           1 control bablu
5:   7010109    bochagari  golenur     amir           1 control bablu
---
566: 81710515  zalchira para  sabiron    kalam           1 control  anzir
567: 81710516  zalchira para   sokina  moni ali           1 control  anzir
568: 81710517  zalchira para   halima  mojibor           1 control  anzir
569: 81710518  zalchira para     rina  zul-hus           1 control  anzir
570: 81710519  zalchira para   sazada  maidul           1 control  anzir
      sname memstatus
1: palash      old
2: palash      old
3: palash      old
4: palash      old
5: palash      old
---
566: palash      old
567: palash      old
568: palash      old
569: palash      old
570: palash      old

```

```
setwd(pathsave)
```

```
write.tablev(treat.problem10 , "treat_problem10.prn")
```

```
write.tablev(treat.problem01 , "treat_problem01.prn")
```

For the time being, I will assume treat to be correct.

There is a stata file called RCT_ind.dta which I do not know...

```
setwd(pathreceived)
```

```
stata.ind ← list.files(pattern = "ind.dta$", recursive = T, full.names = T)
```

```
library(readstata13)
```

```
st.ind ← data.table(read.dta13(stata.ind , generate.factors = T, nonint.factors = T))
```

```
st.ind
```

```

      districtcode districtname unioncode unionname villagecode villagename
1:             7    gaibandha         1 chondipur           1    bochagari
2:             7    gaibandha         1 chondipur           1    bochagari
3:             7    gaibandha         1 chondipur           1    bochagari
4:             7    gaibandha         1 chondipur           1    bochagari
5:             7    gaibandha         1 chondipur           1    bochagari
---
1596:           8    kurigram        17 rajibpur          105 zalchirapara
1597:           8    kurigram        17 rajibpur          105 zalchirapara
1598:           8    kurigram        17 rajibpur          105 zalchirapara

```

```

1599:      8      kurigram      17 rajibpur      105 zalchirapara
1600:      8      kurigram      17 rajibpur      105 zalchirapara
      groupid      hhid memname husbandfathersname povertystatus treatment
1:      70101  7010101  jesmin      samuul      up      treated
2:      70101  7010102  jahida      soraf mia      up      treated
3:      70101  7010103  khoteza      shahin      up      treated
4:      70101  7010104  rupali      aminul      up      treated
5:      70101  7010105  jamila      monju      up      control
---
1596:  817105  81710516  sokena      moin ali      mp      control
1597:  817105  81710517  halema      mogiber      up      control
1598:  817105  81710518  rina      zulhas      up      control
1599:  817105  81710519  sazada      maidul      up      control
1600:  817105  81710520  rabia      tara mia      mp      treated
      creditstatus
1:      yes
2:      yes
3:      yes
4:      yes
5:      no
---
1596:      no
1597:      no
1598:      no
1599:      no
1600:      yes

```

This seems to be the same information as the treatment assignment file.

11.5 arm

Found: Only 10 anomalous treatment.type. Need to inquire GUK.

Cover page files have arm assignment in treatment.type. Create arm0 as short hand notation of intervention.type. Then copy arm0 of later rounds to rds 1, 2. First check if there is a change in arms. To do so, I will check if there is more than one arm recorded for nonNA lines for a given hhid. Since rd 1 and 2 are NAs, there should not be more than 2 types of arm0.

```

idf[, arm0 := "control"]
idf[grepl("L.*dit$", intervention.type), arm0 := "large"]
idf[grepl("C.*dit$", intervention.type), arm0 := "cow"]
idf[grepl("^1.*od$", intervention.type), arm0 := "large grace"]
idf[grepl("T", intervention.type), arm0 := "traditional"]
idf[, arm0.change := NULL]

```

```
Warning in `[.data.table`(idf, , `:=`(arm0.change, NULL)): Adding new column 'arm0.change'
```

```

idf[, arm0.change := length(unique(arm0))>2, by = "hhid"]
idf[!(arm0.change), arm0 := arm0[N], by = "hhid"]
idf[, arm0 := factor(arm0,
  levels = c("control", "traditional", "large", "large grace", "cow"))]
rbind(cbind(rd = 3, t(table0(idf[rd == 3, arm0]))),
  cbind(rd = 4, t(table0(idf[rd == 4, arm0]))))

```

```

      rd control traditional large large grace cow
[1,]  3      397          401   410          453 456
[2,]  4      397          400   410          452 458

```

There are 10 cases of recorded arm0 changes.

```
summary(idf[rd == 3, arm0.change])
```

Mode	FALSE	TRUE	NA's
logical	2107	10	0

```
idf[arm0.change & rd>2, .(hhid, rname, rd, arm0,
support.status, membership.status)]
```

	hhid	rname	rd	arm0	support.status	membership.status
1:	7042010	anna begum	3	cow	1	Old member
2:	7042010	anna begum	4	large	1	Old member
3:	7042120	jalo	3	traditional	1	Old member
4:	7042120	jalo	4	cow	1	Old member
5:	7042406	moziron	3	large	1	Old member
6:	7042406	moziron	4	cow	1	Old member
7:	7043315	anjuara	3	cow	1	Old member
8:	7043315	anjuara	4	traditional	1	Old member
9:	7053803	maleka	3	large	1	Old member
10:	7053803	maleka	4	cow	1	Old member
11:	7053804	obiron	3	large	1	Old member
12:	7053804	obiron	4	cow	1	Old member
13:	7053818	selina	3	cow	1	Old member
14:	7053818	selima	4	large	1	Old member
15:	7096301	omela	3	large grace	1	Old member
16:	7096301	omela	4	large	1	Old member
17:	7126802	feroja	3	traditional	1	Old member
18:	7126802	feroja	4	large	1	Old member
19:	9807065215	habeza	3	large	1	New/replaced member
20:	9807065215	habeza	4	cow	1	New/replaced member

I will create a variable arm which is unchanged throughout the rounds. For individuals with arm0 changes, I will give NA to arm.

```
idf[, arm := arm0]
idf[(arm0.change), arm := NA]
setkey(idf, hhid, rd)
idf[1:20, .(hhid, rname, rd, arm, support.status, membership.status)]
```

	hhid	rname	rd	arm	support.status	membership.status
1:	7010101	jesmin	1	large	NA	NA
2:	7010101	jesmin	2	large	NA	Old member
3:	7010101	jesmin	3	large	1	Old member
4:	7010101	jesmin	4	large	1	Old member
5:	7010102	soraf mia	1	large	NA	NA
6:	7010102	jahida	2	large	NA	Old member
7:	7010102	jahida	3	large	1	Old member
8:	7010102	jahida	4	large	1	Old member
9:	7010103	khoteza	1	control	NA	NA
10:	7010104	aminul	1	control	NA	NA
11:	7010105	jamila	1	large	NA	NA
12:	7010105	jamila	2	large	NA	Old member
13:	7010105	jamila	3	large	1	Old member
14:	7010105	jamira	4	large	1	Old member
15:	7010106	rongu	1	large	NA	NA
16:	7010106	lipi	2	large	NA	Old member
17:	7010106	lipi	3	large	1	Old member
18:	7010106	lipi	4	large	1	Old member
19:	7010107	hasna	1	large	NA	NA
20:	7010107	hasna	2	large	NA	Old member

```
idf[nchar(hhid) > 10,
      .(hhid, rname, rd, arm, support.status, membership.status)][1:10,]
```

	hhid	rname	rd	arm	support.status	membership.status
1:	98070210901	forida	2	control	NA	Replacement member
2:	98070210902	rousonara	2	control	NA	Replacement member
3:	98070210903	asma	2	control	NA	Replacement member
4:	98070210904	sobura	2	control	NA	Replacement member
5:	98070210905	rokeya	2	control	NA	Replacement member
6:	98070210906	mosiful	2	control	NA	Replacement member
7:	98070210907	fatema	2	control	NA	Replacement member
8:	98070210908	lalbanu	2	control	NA	Replacement member
9:	98070210909	shahinur	2	control	NA	Replacement member
10:	98070210910	nasima	2	control	NA	Replacement member

I created arm variable by copying and assigning NA to observations with arm inconsistency across rounds.

```
rbind(cbind(rd = 1, t(table0(idf[rd == 1, arm]))),
      cbind(rd = 2, t(table0(idf[rd == 2, arm]))),
      cbind(rd = 3, t(table0(idf[rd == 3, arm]))),
      cbind(rd = 4, t(table0(idf[rd == 4, arm]))))
```

	rd	control	traditional	large	large	grace	cow	<NA>
[1,]	1	433	185	293		348	332	9
[2,]	2	518	358	380		421	418	9
[3,]	3	397	399	406		452	453	10
[4,]	4	397	399	406		452	453	10

In rd 2, we added households from new chars after flood washed away some of our sampled chars. We first gave them control status, then other arms from rd 3 onwards.

II.6 food consumption and vulnerability

Found: Missing observations match with attrition. No problem found.

Let us match against Section 3B (Food consumption and vulnerability).

```
grepout("sec.*\\_3b", fn)
```

```
[1] "./2/section_3b.prn" "./3/section_3b.prn" "./4/section_3b.prn"
```

```
sec3b <- lapply(X[ grep("sec.*\\_3b", fn)], data.table)
idunion3b <- unique(asn(lapply(sec3b, function(x) x[, id])))
idunion3b <- idunion3b[order(idunion3b)]
c(length(idunion), length(idunion3b))
```

```
[1] 2338 2269
```

```
table(idunion %in% idunion3b)
```

```
FALSE TRUE
 69   2269
```

```
table(idunion3b %in% idunion)
```

TRUE
2269

```
for (i in 2:4) assign(paste0("i", i), idunion %in% sec3b[[i-1]][, id])
iu3b ← data.table(idunion, i1 = idunion %in% idunion3b, i2, i3, i4)
iu3b[, exist := ""]
iu3b[(i1), exist := "0"]
iu3b[(i2), exist := paste0(exist, 2)]
iu3b[(i3), exist := paste0(exist, 3)]
iu3b[(i4), exist := paste0(exist, 4)]
iu3b[exist == "", exist := NA]
iu3b[, c("i1", "i2", "i3", "i4") := NULL]
iu3b[, exist := factor(exist, levels = c("02", "04", "023", "034", "0234", NA))]
setnames(iu3b, "idunion", "hhid")
```

69 NA's match with attrited subjects in rd 2, 151 matches with remainder of attrition last seen in rd 2. @ table0(iu3b[, exist]) @