Dataset Integrity Check for the Chronic Prostatitis Collaborative Research Network – Ciprofloxacin-Tamsulosin Study, CPCRN RCT#1

Prepared by

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Revision History

Version	Author/Title	Date	Comments
1.0	Susan M. Rogers	March 28, 2012	

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1 Introduction

As a partial check of the integrity of the CPCRN RCT#1-CiproFlomax dataset archived in the NIDDK data repository, a set of tabulations was performed to verify that published results can be reproduced using the archived dataset. Analyses were performed to duplicate selected results for the data published by Alexander et al [1] in the Annals of Internal Medicine in 2004. The results of this dataset integrity check (DSIC) are described below. The Stata code and output for our DSIC tabulations are included in Attachment A [2].

The intent of this DSIC is to provide confidence that the data distributed by the NIDDK repository is a true copy of the study data. Our intent is not to assess the integrity of the statistical analyses reported by study investigators. As with all statistical analyses of complex datasets, complete replication of a set of statistical results should not be expected on a first (or second) exercise in secondary analysis. This occurs for a number of reasons including differences in the handling of missing data, restrictions on cases included in samples for a particular analysis, software coding used to define complex variables, etc. Experience suggests that most discrepancies can ordinarily be resolved by consultation with the study data coordinating center (DCC), however this process is labor-intensive for both DCC and Repository staff. It is thus not our policy to resolve every discrepancy that is observed in an integrity check. Specifically, we do not attempt to resolve minor or inconsequential discrepancies with published results or discrepancies that involve complex analyses, unless NIDDK Repository staff suspect that the observed discrepancy suggests that the dataset may have been corrupted in storage, transmission, or processing by repository staff. We do, however, document in footnotes to the integrity check those instances in which our secondary analyses produced results that were not fully consistent with those reported in the target publication.

2 Background

The Chronic Prostatitis Collaborative Research Network CiproFlomax study was a multicenter randomized clinical trial to evaluate the efficacy of ciprofloxacin, tamsulosin, the combination of ciprofloxacin and tamsulosin, or placebo in reducing symptoms associated with chronic prostatitis-chronic pelvic pain in men. Men were randomly assigned to 500mg twice daily of ciprofloxacin, 0.4 mg daily of tamsulosin, a combination of the two drugs, or placebo treatment for 6 weeks. The primary outcome was a change on the NIH Chronic Prostatitis Symptom Index (NIH-CPSI, range 0-43 with higher scores indicating more severe symptoms) from baseline to 6 weeks. (To be eligible for the study, men were required to have a NIH-CPSI score of at least 15 at the time of randomization). Secondary outcomes included changes in the pain, voiding, and quality of life subscales of the NIH-CPSI; physical and mental summary scores on the Medical Outcomes 12-Item Short-Form Health Survey; and a 7-point global response assessment (GRA) of self-reported change in chronic prostatitis-related symptoms at 6 weeks. A total of 196 participants were randomized. The paper by Alexander et al. provides the main study results for the efficacy trial.

3 Archived Datasets

For this DSIC, tabulations were completed using the dataset “anal.sas7bdat”, an analysis file provided to the NIDDK repository by the DCC. We did not use the original form-based variables – rather we used the variables as contained in the analysis file. All analyses were conducted using Stata v12. We converted the SAS analysis file to Stata format using StatTransfer (Circle Systems).

4 DSIC Analysis

Our DSIC analyses compare our tabulations to published results in Table 2 (Baseline Characteristics by Individual Treatment Group), Table 3 (Primary End Point: Change from Baseline to 6 Weeks in Total Score NIH-CPSI), Table 5 (Secondary End Points: Changes from Baseline to 6 Weeks Individual Groups) and Figure 2, Mean values of the National Institutes of Health Chronic Prostatitis Symptom Index (NIH_CPSI) total score (potential of 43 points) over time for the 4 individual treatment groups.

Descriptive statistics are presented for the change in NIH-CPSI total score and subscores over treatment groups and time. The mean change from baseline to 6 weeks is presented for all patients who had complete data at both time points. For the secondary longitudinal end points, only the mean change from baseline is shown. In the manuscript, p values (Table 4) were derived from longitudinal regression models with treatment-by-time interaction terms; we did not perform these statistical tests in the DSIC.

5 DSIC Results

Distributions of baseline characteristics by individual treatment groups matched published results exactly (Table 2). Consequently, only one set of results is presented.

Table 1: Baseline Characteristics by Individual Treatment Groups (Table 2).

		Alexander et al (2004)			
Characteristic	*data var name*	**Placebo**	**Ciprofloxacin**	**Tamsulosin**	**Combination**
Patients, n	*arm*	49	49	49	49
Ethnicity, n(%)	*race*				
White		26 (53)	35 (71)	34 (69)	32 (65)
Black or African American		6 (12)	10 (20)	6 (12)	9 (18)
Hispanic		11 (22)	4 (8)	4 (8)	7 (14)
Other†		6 (12)	0 (0)	5 (10)	1 (2)
Age, y	*age*	42.6 ± 12	45.9 ± 11.7	45.3 ± 9.7	44.5 ± 11.4
Time since diagnosis, y	*duration*	6.7± 7.3	6.7 ± 7.2	6.3 ± 7.7	5 ± 6
NIH-CPSI‡					
Total score	*cpsi*	25 ± 5.1	24.2 ± 6.2	24.6 ± 6.2	25.3 ± 6.1
Pain score	*pain*	12.2 ± 3	11.7 ± 3.1	11.3 ± 3.6	12 ± 3.4
Urinary score	*urinary*	4.5 ± 2.5	4.8 ±2.8	5.1 ± 2.9	5 ± 2.4
Quality of life score	*quol*	8.3 ± 1.9	7.7 ± 2.2	8.2 ± 2.2	8.2 ± 2.3
Medical Outcomes Study					
Mental summary score	*mcs12*	41.6 ± 12.7	46.3 ± 11.6	45.7 ± 9.1	47.5 ± 12.3
Physical summary score	*pcs12*	45.4 ± 9.2	45.3 ± 8.2	43.9 ± 9.8	44.9 ± 9.2

* Values presented with a plus/minus sign are means ± SD.

NIH-CPSI = National Institutes of Health Chronic Prostatitis Symptom Index.

† Includes Asian, Pacific Islander, Native American, and multiracial.

‡ Scores on the NIH-CPSI represent the average of two baseline scores. The ranges of possible scores on the 3 NIH-CPS domains are as follows: pain = 0-21 points; urinary = 0-10 points; quality of life = 0-12 points. The total score ranges from 0 to 43 points. The 3 domain scores may not sum to the total score because of rounding.

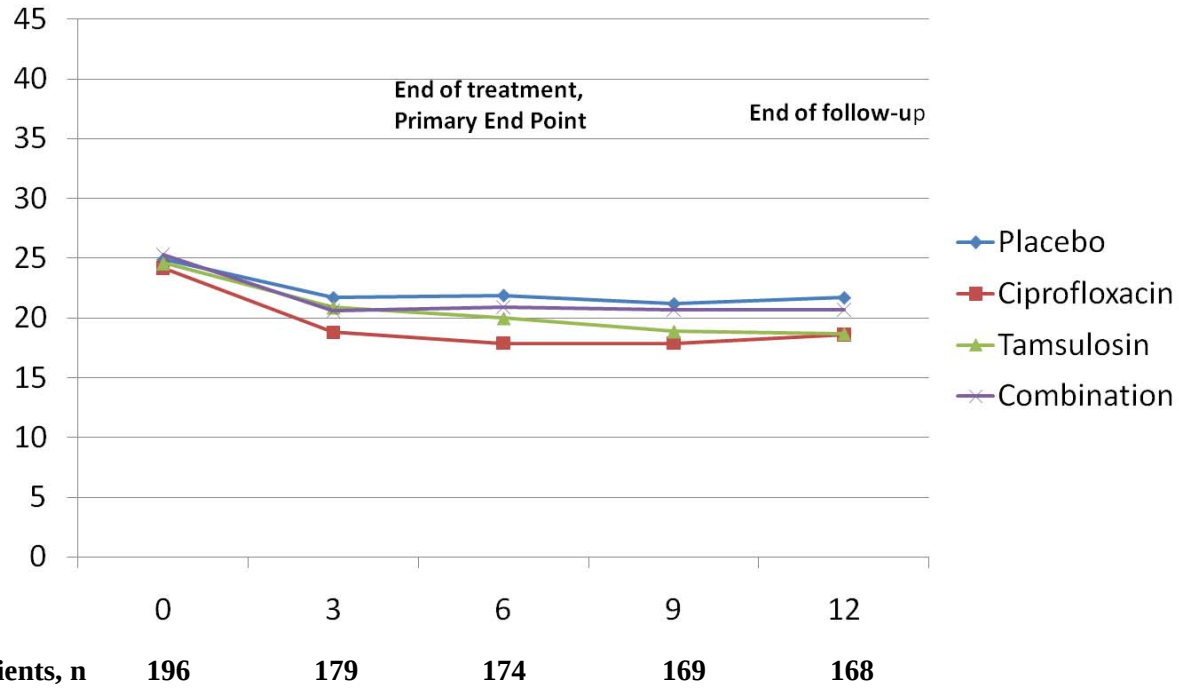
Note: our tabulations for DSIC exactly matched the published result. Published results reported in Alexander et al (2004) Ann Intern Med 141(8):583.

6 Primary and Secondary Outcomes

The primary outcome was the change in the National Institutes of Health Chronic Prostatitis Symptom Index (NIH-CPSI) from baseline to 6 weeks. The NIH-CPSI total score ranges from 0 to 43 points; a high score indicates more severe symptoms.

Tabulations of mean values of the NIH-CPSI by individual treatment groups over time appear to match exactly the published results as plotted in Figure 2 of the manuscript. Mean values calculated by the DSIC for Figure 2 are presented as a supplemental table for comparative purposes.

Figure 1: Mean values of the National Institutes of Health Chronic Prostatitis Symptom Index (NIH-CPSI) total score (potential of 43 points) over time for the 4 individual treatment groups (Figure 2).



	Placebo	Ciprofloxacin	Tamsulosin	Combination
0	24.9	24.2	24.6	25.3
3	21.7	18.8	20.9	20.6
6	21.9	17.9	20	20.9
9	21.2	17.9	18.9	20.7
12	21.7	18.6	18.7	20.7

Secondary outcomes included changes in the pain, voiding, and quality-of-life subscales on the NIH-CPSI and physical and mental summary scores on the Medical Outcomes Study 12-Item Short Form Health

Survey. Participants who withdrew from the study before 6 weeks were defined as treatment nonresponders and were included in the denominator for the assessment of response rates.

For the NIH-CPSI, higher scores indicate more severe symptoms (for the quality-of-life score, higher scores indicate a more negative effect). Score ranges are as follows: total score, 0 to 43; pain score, 0 to 21; urinary score, 0 to 10, quality-of-life score, 0 to 12. For the Medical Outcomes Study Short Form Health Survey 12 (SF-12), higher scores indicate better quality of life. Score range for both the physical and mental component summaries is 0 to 100.

The end points of secondary symptoms and quality of life are shown in Tables 4 and 5. DSIC results (Ns, percentages, means and standard deviations) matched exactly the published tabulations indicating no significant effects of drug treatment at 6 weeks for either ciprofloxacin (compared to no ciprofloxacin) or tamsulosin (compared to no tamsulosin). P values for the differences in secondary end points by treatment (ciprofloxacin and tamsulosin) in the DSIC tabulations were calculated using standard t-test and were slightly higher than the values derived from longitudinal regression models in the published analyses. As these values were not tabulated using the same statistical procedure, they are not presented in the results below.

Table 2: Secondary end points: Changes from baseline to 6 weeks, main effects (Table 4).

Symptom Score						
	Ciprofloxacin			**Tamsulosin**		
	No	**Yes**	***P* value**	**No**	**Yes**	***P* value**
Patients, n	98	98		98	98	
Respondents, n (%) †	23 (24)	16 (16)	> 0.2	22 (23)	17 (17)	> 0.2
Patients with complete data at 6 weeks, n (%) ‡	90 (92)	84 (84)		87 (89)	87 (89)	
NIH-CPSI ∫						
Total score	-3.9 ± 5.7	-5.2 ± 6.8	0.15	-4.7 ± 6.4	-4.3 ± 6.1	> 0.2
Pain score	-1.9 ± 3.3	-2.4 ± 4.2	> 0.2	-2.3 ± 3.8	-2.0 ± 3.7	> 0.2
Urinary score	-0.7 ± 2.0	-1.2 ± 2.0	0.1	-0.9±2.1	-1.0 ± 1.9	> 0.2
Quality of life score	-1.2 ± 1.8	-1.6 ± 2.2	0.2	-1.5 ± 2.0	-1.3 ± 2.0	> 0.2
Medical Outcomes Study 12-item Short form Survey						
Mental composite score	1.2 ± 10.1	-0.9 ± 8.9	0.19	0.8 ±9.7	0.5 ± 9.5	> 0.2
Physical composite score	2.7 ± 7.2	2.6 ± 7.6	>0.2	2.0 ± 7.3	3.3 ± 7.4	0.17

Note: P values presented in the manuscript were based on a treatment-by-treatment (by time) interaction; these statistical tests were not performed in the DSIC

* Values presented with a plus/minus sign are means ± SD. NIH-CPSI = National Institutes of Health Chronic Prostatitis Symptom Index

† Patients who withdrew before 6 weeks were considered nonresponders and were included in the denominator for the calculation of response rates in an intention-to-treat analysis.

‡ Means ± SDs for symptom and quality-of-life end points include only the 174 patients who had complete data at both baseline and 6 weeks. Thus, this analysis excludes the 17 patients who withdrew from study before 6 weeks as well as 5 patients who continued in the study but missed the clinic visit at 6 weeks for various reasons. P values are derived from the longitudinal regression models that included all available data on all patients. These results do not represent an intention-to-treat analysis and should be interpreted cautiously because of the potential bias related to patient withdrawal from the study.

∫ The ranges of possible scores on the 3 NIH-CPSI domains are as follows: pain, 0-21; urinary, 0-10; quality of life, 0-12. Total possible score ranges from 0 to 43 points. A negative change indicates improvement. The 3 domain scores may not sum to the total score because of rounding.

Note: Published results reported in Alexander et al (2004) Ann Intern Med 141(8):586

Table 3: Secondary end points: Changes from baseline to 6 weeks in individual groups (Table 5).

Variable	Placebo Group	Ciprofloxacin Group	Tamsulosin Group	Combination Group
Patients, n	49	49	49	49
Respondents, n (%) †	11 (22)	11 (22)	12 (24)	5 (10)
Patients with complete data at 6 weeks, n (%) ‡	45 (92)	42 (86)	45 (92)	42 (86)
NIH-CPSI ∫				
Total score	-3.4 ± 5	-6.2 ± 7.3	-4.4 ± 6.3	-4.1 ± 6.1
Pain score	-1.6 ± 2.9	-3.0 ± 4.6	-2.3 ±3.7	-1.8 ± 3.7
Urinary score	-0.5 ± 2	-1.3 ± 2.1	-0.9 ± 2	-1.1 ± 1.8
Quality of life score	-1.2 ± 1.5	-1.9 ±2.4	-1.3 ± 2.0	-1.3 ± 1.9
Medical Outcomes Study 12-item Short form Survey				
Mental composite score	2.7 ± 9.5	-1.2 ± 9.7	0.3 ± 10.6	-0.7 ± 8.3
Physical composite score	1.5 ±6.6	2.5 ± 7.9	3.9 ± 7.5	2.7 ± 7.3

* Values presented with a plus/minus sign are means ± SD. NIH-CPSI=National Institutes of Health Chronic Prostatitis Symptom Index.

† Patients who withdrew before 6 weeks were considered nonresponders and were included in the denominator for the calculation of response rates in an intention-to-treat analysis.

‡ Means ± SDs for symptom and quality-of-life end points include only the 174 patients who had complete data at both baseline and 6 weeks. Thus, this analysis excludes the 17 patients who withdrew from study before 6 weeks as well as 5 patients who continued in the study but missed the clinic visit at 6 weeks for various reasons. P values are derived from the longitudinal regression models that included all available data on all patients. These results do not represent an intention-to-treat analysis and should be interpreted cautiously because of the potential bias related to patient withdrawal from the study.

∫ The ranges of possible scores on the 3 NIH-CPSI domains are as follows: pain = 0-21; urinary = 0-10; quality of life = 0-12. Total possible score ranges from 0 to 43 points. A negative change indicates improvement. The 3 domain scores may not sum to the total score because of rounding.

Note: Published results reported in Alexander et al (2004) Ann Intern Med 141(8):586 and replicated by DSIC.

7 Summary

Descriptive results provided by this DSIC for the baseline measurements and the primary and secondary outcomes were tabulated using an analysis file provided by the DCC to the NIDDK repository. DSIC results either matched exactly or closely agreed with published values in Alexander et al (2004).

8 References

1. Alexander RB, Propert KJ, Schaeffer AJ et al (2004). Ciprofloxacin or Tamsulosin in Men with Chronic Prostatitis/Chronic Pelvic Pain Syndrome. Annals of Internal Medicine 141:581-589.
2. [2]. Users of the data are referred to the document ‘Primary manuscript.sas’ provided by the DCC to the NIDDK repository which provides SAS code and variable definition for the anal.sas7bdat file used in reproducing the tables in the Alexander et al. manuscript.

Appendix A: Stata Code and Output for DSIC Tabulations

```
-------------------------------------------------------------------------------
      log:  C:\Documents and Settings\smr\My
Documents\CPCRN\CPCRN_CiproFlomax_FinalPacket\DSIC\DSIC results.log
  log type:  text
 opened on:   6 Mar 2012, 17:29:49


. ********Replicate tables in Alexander et al 2004********
. *****Ciproflomax or Tamsulosin in Men with Chronic Prostatitis/Chronic Pelvic Pain
Syndrome********
.
. use "anal.dta", clear


. ****Table 2. Baseline characteristics by individual treatment groups
.
. tab1 arm racecat

-> tabulation of arm

        arm |      Freq.     Percent        Cum.
------------+-----------------------------------
          A |        224       25.17       25.17
          B |        225       25.28       50.45
          C |        222       24.94       75.39
          D |        219       24.61      100.00
------------+-----------------------------------
      Total |        890      100.00

-> tabulation of racecat

    racecat |      Freq.     Percent        Cum.
------------+-----------------------------------
          2 |        144       16.18       16.18
          3 |        114       12.81       28.99
          5 |        576       64.72       93.71
         99 |         56        6.29      100.00
------------+-----------------------------------
      Total |        890      100.00

. encode arm, gen(group)

. label define group 1"placebo" 2"tamsulosin" 3"combined" 4"ciprofoxacin", replace

. tab arm group

           |                    group
       arm |   placebo  tamsulosi   combined  ciprofoxa |     Total
-----------+--------------------------------------------+----------
         A |       224          0          0          0 |       224
         B |         0        225          0          0 |       225
         C |         0          0        222          0 |       222
         D |         0          0          0        219 |       219
-----------+--------------------------------------------+----------
     Total |       224        225        222        219 |       890


. label list group
group:
```

```
           1 placebo
           2 tamsulosin
           3 combined
           4 ciprofoxacin

. label define race 2"Black" 3"Latino/Hisp" 5"White" 99"other"

. label value race race

.
. sort group

. tab vnum

       vnum |      Freq.     Percent        Cum.
------------+-----------------------------------
          2 |        196       22.02       22.02
          3 |        182       20.45       42.47
          4 |        174       19.55       62.02
          5 |        169       18.99       81.01
          6 |        169       18.99      100.00
------------+-----------------------------------
      Total |        890      100.00

. tab group if vnum==2

       group |      Freq.     Percent        Cum.
-------------+-----------------------------------
     placebo |         49       25.00       25.00
  tamsulosin |         49       25.00       50.00
    combined |         49       25.00       75.00
ciprofoxacin |         49       25.00      100.00
-------------+-----------------------------------
       Total |        196      100.00

. tab group race if vnum==2, col

+--------------------+
| Key                |
|--------------------|
|     frequency      |
| column percentage  |
+--------------------+

             |                    racecat
       group |     Black  Latino/Hi      White      other |     Total
-------------+--------------------------------------------+----------
     placebo |         6         11         26          6 |        49
             |     19.35      42.31      20.47      50.00 |     25.00
-------------+--------------------------------------------+----------
  tamsulosin |         6          4         34          5 |        49
             |     19.35      15.38      26.77      41.67 |     25.00
-------------+--------------------------------------------+----------
    combined |         9          7         32          1 |        49
             |     29.03      26.92      25.20       8.33 |     25.00
-------------+--------------------------------------------+----------
ciprofoxacin |        10          4         35          0 |        49
             |     32.26      15.38      27.56       0.00 |     25.00
-------------+--------------------------------------------+----------
       Total |        31         26        127         12 |       196
             |    100.00     100.00     100.00     100.00 |    100.00
```

```
. tabstat age if vnum==2, by (group) stat (mean sd min max median)

Summary for variables: age
     by categories of: group

       group |      mean        sd       min       max       p50
-------------+--------------------------------------------------
     placebo |  42.63265  12.02028        24        72        40
  tamsulosin |  45.26531  9.669056        24        67        44
    combined |   44.5102  11.44757        23        70        45
ciprofoxacin |  45.93878  11.68583        25        71        48
-------------+--------------------------------------------------
       Total |  44.58673  11.22441        23        72        44
------------------------------------------------------------------

. **VNUM visit 2, Randomization Visit
. tabstat duration cpsi pain urinary quol mcs12 pcs12 if vnum==2, by (group) stat
(mean sd)

Summary statistics: mean, sd
  by categories of: group

       group |  duration      cpsi      pain   urinary      quol     mcs12     pcs12
-------------+-----------------------------------------------------------------------
     placebo |   6.72449  24.96939  12.19388       4.5   8.27551  41.60305  45.37933
             |  7.321986  5.057388  2.970017  2.462214  1.944708  12.73736  9.195978
-------------+-----------------------------------------------------------------------
  tamsulosin |  6.334043  24.55102  11.28571  5.061224  8.204082  45.71337  43.89307
             |  7.741595  6.162931  3.608439  2.895098  2.247495  9.149324  9.762405
-------------+-----------------------------------------------------------------------
    combined |  4.959574   25.2551  12.02041  4.989796  8.244898  47.52845  44.94521
             |  5.997197  6.056266  3.423204  2.427039  2.343258  12.32879  9.218835
-------------+-----------------------------------------------------------------------
ciprofoxacin |  6.727083  24.20408  11.67347  4.816327  7.714286  46.28448  45.27458
             |  7.171033  6.195528  3.126751  2.758876  2.217356  11.57027  8.200557
-------------+-----------------------------------------------------------------------
       Total |  6.194764   24.7449  11.79337  4.841837  8.109694  45.28234  44.87305
             |  7.071654  5.855195  3.284682  2.631756  2.188421  11.65668  9.060733
-------------------------------------------------------------------------------------


. *********Table 3. Primary End Point: Change from Baseline to 6 weeks in Total Score
NIH-CPSI
. tab group test1 if vnum==4

             |         test1
       group |         0          1 |     Total
-------------+----------------------+----------
     placebo |        45          0 |        45
  tamsulosin |        45          0 |        45
    combined |         0         42 |        42
ciprofoxacin |         0         42 |        42
-------------+----------------------+----------
       Total |        90         84 |       174


. tab group test2 if vnum==4

             |         test2
       group |         0          1 |     Total
-------------+----------------------+----------
     placebo |        45          0 |        45
  tamsulosin |         0         45 |        45
```

```
    combined |         0         42 |        42
ciprofoxacin |        42          0 |        42
-------------+----------------------+----------
       Total |        87         87 |       174
. tabstat d_cpsi if vnum==4, by (group) stat (mean sd)

Summary for variables: d_cpsi
     by categories of: group

       group |      mean        sd
-------------+--------------------
     placebo | -3.366667  5.029911
  tamsulosin | -4.402222  6.258684
    combined | -4.142857  6.082046
ciprofoxacin | -6.154762  7.303932
-------------+--------------------
       Total | -4.494828  6.232121
--------------------------------

. tabstat d_cpsi if vnum==4, by (test1) stat (mean sd)

Summary for variables: d_cpsi
     by categories of: test1

   test1 |      mean        sd
---------+--------------------
       0 | -3.884444   5.66961
       1 |  -5.14881  6.756425
---------+--------------------
   Total | -4.494828  6.232121
------------------------------

. tabstat d_cpsi if vnum==4, by (test2) stat (mean sd)

Summary for variables: d_cpsi
     by categories of: test2

   test2 |      mean        sd
---------+--------------------
       0 | -4.712644  6.351447
       1 | -4.277011  6.139497
---------+--------------------
   Total | -4.494828  6.232121
------------------------------

.
. keep if vnum<=4
(338 observations deleted)

. gen week=.
(552 missing values generated)

. replace week=0 if vnum==2
(196 real changes made)

. replace week=3 if vnum==3
(182 real changes made)

. replace week=6 if vnum==4
(174 real changes made)

. tab week vnum
```

```
           |               vnum
      week |         2          3          4 |     Total
-----------+---------------------------------+----------
         0 |       196          0          0 |       196
         3 |         0        182          0 |       182
         6 |         0          0        174 |       174
-----------+---------------------------------+----------
     Total |       196        182        174 |       552


.
. xtmixed cpsi week ||ccid: || subj: week

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0:   log likelihood = -1756.2728
Iteration 1:   log likelihood =  -1756.146
Iteration 2:   log likelihood =  -1756.146

Computing standard errors:

Mixed-effects ML regression                     Number of obs      =       549

------------------------------------------------------------
                |   No. of       Observations per Group
 Group Variable |   Groups    Minimum    Average    Maximum
----------------+-------------------------------------------
           ccid |       10         42       54.9         87
           subj |      196          1        2.8          3
------------------------------------------------------------

                                                Wald chi2(1)       =     78.83
Log likelihood =  -1756.146                     Prob > chi2        =    0.0000

------------------------------------------------------------------------------
        cpsi |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        week |  -.7616344   .0857848    -8.88   0.000    -.9297695   -.5934993
       _cons |   24.22985   .6100634    39.72   0.000     23.03414    25.42555
------------------------------------------------------------------------------

------------------------------------------------------------------------------
  Random-effects Parameters  |   Estimate   Std. Err.     [95% Conf. Interval]
-----------------------------+------------------------------------------------
ccid: Identity               |
                   sd(_cons) |   1.286308   .5600313      .5479614    3.019535
-----------------------------+------------------------------------------------
subj: Independent            |
                    sd(week) |   .6065512   .1105975       .424288    .8671099
                   sd(_cons) |   5.042838    .362845      4.379544    5.806589
-----------------------------+------------------------------------------------
                sd(Residual) |   4.132404   .1822023      3.790289    4.505398
------------------------------------------------------------------------------
LR test vs. linear regression:       chi2(3) =   213.00   Prob > chi2 = 0.0000

Note: LR test is conservative and provided only for reference.

.
. **************Table 4. Secondary End Points: Changes from Baseline to 6 weeks, Main
effects
.
```

```
. tab1 cipro flomax

-> tabulation of cipro

      cipro |      Freq.     Percent        Cum.
------------+-----------------------------------
          0 |        280       50.72       50.72
          1 |        272       49.28      100.00
------------+-----------------------------------
      Total |        552      100.00

-> tabulation of flomax

     flomax |      Freq.     Percent        Cum.
------------+-----------------------------------
          0 |        274       49.64       49.64
          1 |        278       50.36      100.00
------------+-----------------------------------
      Total |        552      100.00

. tab1 cipro flomax if vnum==4

-> tabulation of cipro if vnum==4

      cipro |      Freq.     Percent        Cum.
------------+-----------------------------------
          0 |         90       51.72       51.72
          1 |         84       48.28      100.00
------------+-----------------------------------
      Total |        174      100.00

-> tabulation of flomax if vnum==4

     flomax |      Freq.     Percent        Cum.
------------+-----------------------------------
          0 |         87       50.00       50.00
          1 |         87       50.00      100.00
------------+-----------------------------------
      Total |        174      100.00

. tabstat d_cpsi if vnum==4,  by (cipro) stat (mean sd n)

Summary for variables: d_cpsi
     by categories of: cipro

   cipro |      mean        sd         N
---------+--------------------------------
       0 | -3.884444   5.66961        90
       1 |  -5.14881  6.756425        84
---------+--------------------------------
   Total | -4.494828  6.232121       174
------------------------------------------

.  ttest d_cpsi if vnum==4, by (cipro)

Two-sample t test with equal variances
------------------------------------------------------------------------------
   Group |     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+--------------------------------------------------------------------
       0 |      90   -3.884444    .5976293     5.66961   -5.071921   -2.696968
       1 |      84    -5.14881    .7371864    6.756425   -6.615044   -3.682575
---------+--------------------------------------------------------------------
combined |     174   -4.494828    .4724559    6.232121   -5.427348   -3.562308
```

```
---------+--------------------------------------------------------------------
    diff |            1.264365    .9433049               -.5975794     3.12631
------------------------------------------------------------------------------
    diff = mean(0) - mean(1)                                      t =   1.3404
Ho: diff = 0                                     degrees of freedom =      172

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.9091         Pr(|T| > |t|) = 0.1819          Pr(T > t) = 0.0909

.  ttest d_pain if vnum==4, by (cipro)

Two-sample t test with equal variances
------------------------------------------------------------------------------
   Group |     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+--------------------------------------------------------------------
       0 |      90       -1.94    .3510349    3.330209   -2.637499   -1.242501
       1 |      84    -2.39881    .4590034    4.206836   -3.311749    -1.48587
---------+--------------------------------------------------------------------
combined |     174   -2.161494    .2861654    3.774781   -2.726319   -1.596669
---------+--------------------------------------------------------------------
    diff |            .4588095    .5732672               -.6727353    1.590354
------------------------------------------------------------------------------
    diff = mean(0) - mean(1)                                      t =   0.8003
Ho: diff = 0                                     degrees of freedom =      172

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.7877         Pr(|T| > |t|) = 0.4246          Pr(T > t) = 0.2123

.  ttest d_ur if vnum==4, by (cipro)

Two-sample t test with equal variances
------------------------------------------------------------------------------
   Group |     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+--------------------------------------------------------------------
       0 |      90   -.7055556    .2055556    1.950071    -1.11399    -.297121
       1 |      84    -1.14881    .2140336     1.96165   -1.574514   -.7231054
---------+--------------------------------------------------------------------
combined |     174   -.9195402    .1487857    1.962618   -1.213209   -.6258713
---------+--------------------------------------------------------------------
    diff |             .443254    .2966939               -.142376    1.028884
------------------------------------------------------------------------------
    diff = mean(0) - mean(1)                                      t =   1.4940
Ho: diff = 0                                     degrees of freedom =      172

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.9315         Pr(|T| > |t|) = 0.1370          Pr(T > t) = 0.0685

.  ttest d_quol if vnum==4, by (cipro)

Two-sample t test with equal variances
------------------------------------------------------------------------------
   Group |     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+--------------------------------------------------------------------
       0 |      90   -1.238889    .1876705    1.780399   -1.611786   -.8659916
       1 |      84    -1.60119    .2411336    2.210026   -2.080796   -1.121585
---------+--------------------------------------------------------------------
combined |     174   -1.413793    .1517518    2.001743   -1.713316    -1.11427
---------+--------------------------------------------------------------------
    diff |            .3623016    .3033102               -.2363879    .9609911
------------------------------------------------------------------------------
    diff = mean(0) - mean(1)                                      t =   1.1945
Ho: diff = 0                                     degrees of freedom =      172
```

```
    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.8830         Pr(|T| > |t|) = 0.2339          Pr(T > t) = 0.1170

.  ttest d_mcs if vnum==4, by (cipro)

Two-sample t test with equal variances
------------------------------------------------------------------------------
   Group |     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+--------------------------------------------------------------------
       0 |      90     1.16713    1.064965    10.10315   -.9489327    3.283193
       1 |      84    -.931467    .9738199    8.925206   -2.868356    1.005422
---------+--------------------------------------------------------------------
combined |     174    .1540143    .7264935    9.583107   -1.279918    1.587946
---------+--------------------------------------------------------------------
    diff |            2.098597    1.449265               -.7620371    4.959231
------------------------------------------------------------------------------
    diff = mean(0) - mean(1)                                      t =   1.4480
Ho: diff = 0                                     degrees of freedom =      172

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.9253         Pr(|T| > |t|) = 0.1494          Pr(T > t) = 0.0747

.  ttest d_pcs if vnum==4, by (cipro)

Two-sample t test with equal variances
------------------------------------------------------------------------------
   Group |     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+--------------------------------------------------------------------
       0 |      90    2.678492    .7547515    7.160202    1.178816    4.178167
       1 |      84    2.609196    .8258495    7.569036    .9666148    4.251778
---------+--------------------------------------------------------------------
combined |     174    2.645039    .5563759    7.339102     1.54688    3.743198
---------+--------------------------------------------------------------------
    diff |            .0692954    1.116633               -2.134774    2.273365
------------------------------------------------------------------------------
    diff = mean(0) - mean(1)                                      t =   0.0621
Ho: diff = 0                                     degrees of freedom =      172

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.5247         Pr(|T| > |t|) = 0.9506          Pr(T > t) = 0.4753

.
.  ttest d_cpsi if vnum==4, by (flomax)

Two-sample t test with equal variances
------------------------------------------------------------------------------
   Group |     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+--------------------------------------------------------------------
       0 |      87   -4.712644    .6809466    6.351447   -6.066321   -3.358967
       1 |      87   -4.277011    .6582231    6.139497   -5.585516   -2.968507
---------+--------------------------------------------------------------------
combined |     174   -4.494828    .4724559    6.232121   -5.427348   -3.562308
---------+--------------------------------------------------------------------
    diff |           -.4356322    .9470723               -2.305013    1.433749
------------------------------------------------------------------------------
    diff = mean(0) - mean(1)                                      t =  -0.4600
Ho: diff = 0                                     degrees of freedom =      172

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.3231         Pr(|T| > |t|) = 0.6461          Pr(T > t) = 0.6769

.  ttest d_pain if vnum==4, by (flomax)
```

```
Two-sample t test with equal variances
------------------------------------------------------------------------------
   Group |     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+--------------------------------------------------------------------
       0 |      87   -2.298851    .4116276    3.839407   -3.117139   -1.480562
       1 |      87   -2.024138    .3994883    3.726179   -2.818294   -1.229981
---------+--------------------------------------------------------------------
combined |     174   -2.161494    .2861654    3.774781   -2.726319   -1.596669
---------+--------------------------------------------------------------------
    diff |           -.2747126    .5736098               -1.406934    .8575083
------------------------------------------------------------------------------
    diff = mean(0) - mean(1)                                      t =  -0.4789
Ho: diff = 0                                     degrees of freedom =      172

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.3163         Pr(|T| > |t|) = 0.6326          Pr(T > t) = 0.6837

.  ttest d_ur if vnum==4, by (flomax)

Two-sample t test with equal variances
------------------------------------------------------------------------------
   Group |     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+--------------------------------------------------------------------
       0 |      87   -.8793103    .2198037    2.050192   -1.316266   -.4423551
       1 |      87   -.9597701    .2017728    1.882012   -1.360881    -.558659
---------+--------------------------------------------------------------------
combined |     174   -.9195402    .1487857    1.962618   -1.213209   -.6258713
---------+--------------------------------------------------------------------
    diff |            .0804598    .2983721               -.5084827    .6694022
------------------------------------------------------------------------------
    diff = mean(0) - mean(1)                                      t =   0.2697
Ho: diff = 0                                     degrees of freedom =      172

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.6061         Pr(|T| > |t|) = 0.7877          Pr(T > t) = 0.3939

.  ttest d_quol if vnum==4, by (flomax)

Two-sample t test with equal variances
------------------------------------------------------------------------------
   Group |     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+--------------------------------------------------------------------
       0 |      87   -1.534483    .2171775    2.025697   -1.966217   -1.102748
       1 |      87   -1.293103    .2124738    1.981824   -1.715487   -.8707194
---------+--------------------------------------------------------------------
combined |     174   -1.413793    .1517518    2.001743   -1.713316    -1.11427
---------+--------------------------------------------------------------------
    diff |           -.2413793    .3038276               -.8410901    .3583314
------------------------------------------------------------------------------
    diff = mean(0) - mean(1)                                      t =  -0.7945
Ho: diff = 0                                     degrees of freedom =      172

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.2140         Pr(|T| > |t|) = 0.4280          Pr(T > t) = 0.7860

.  ttest d_mcs if vnum==4, by (flomax)

Two-sample t test with equal variances
------------------------------------------------------------------------------
   Group |     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+--------------------------------------------------------------------
       0 |      87    .8253056    1.039892    9.699471   -1.241932    2.892543
       1 |      87    -.517277    1.015672    9.473556   -2.536366    1.501812
```

```
---------+--------------------------------------------------------------------
combined |     174    .1540143    .7264935    9.583107   -1.279918    1.587946
---------+--------------------------------------------------------------------
    diff |            1.342583    1.453604               -1.526618    4.211783
------------------------------------------------------------------------------
    diff = mean(0) - mean(1)                                      t =   0.9236
Ho: diff = 0                                     degrees of freedom =      172

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.8215         Pr(|T| > |t|) = 0.3570          Pr(T > t) = 0.1785

.  ttest d_pcs if vnum==4, by (flomax)

Two-sample t test with equal variances
------------------------------------------------------------------------------
   Group |     Obs        Mean    Std. Err.   Std. Dev.   [95% Conf. Interval]
---------+--------------------------------------------------------------------
       0 |      87    1.976949    .7771756    7.249011    .4319746    3.521922
       1 |      87    3.313129    .7943763    7.409448    1.733961    4.892297
---------+--------------------------------------------------------------------
combined |     174    2.645039    .5563759    7.339102     1.54688    3.743198
---------+--------------------------------------------------------------------
    diff |            -1.33618    1.111321               -3.529765    .8574039
------------------------------------------------------------------------------
    diff = mean(0) - mean(1)                                      t =  -1.2023
Ho: diff = 0                                     degrees of freedom =      172

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.1154         Pr(|T| > |t|) = 0.2309          Pr(T > t) = 0.8846

.
.  tab sym1 vnum

           |                vnum
      sym1 |         2          3          4 |     Total
-----------+---------------------------------+----------
         0 |         0          2          2 |         4
         1 |         6          5          5 |        16
         2 |        22          9         13 |        44
         3 |       132         73         55 |       260
         4 |        28         65         60 |       153
         5 |         6         22         30 |        58
         6 |         2          3          9 |        14
-----------+---------------------------------+----------
     Total |       196        179        174 |       549


. tab cipro if sym1>=5 & vnum==4

      cipro |      Freq.     Percent        Cum.
------------+-----------------------------------
          0 |         23       58.97       58.97
          1 |         16       41.03      100.00
------------+-----------------------------------
      Total |         39      100.00

. tab flomax if sym1>=5 & vnum==4

     flomax |      Freq.     Percent        Cum.
------------+-----------------------------------
          0 |         22       56.41       56.41
          1 |         17       43.59      100.00
------------+-----------------------------------
```

```
      Total |         39      100.00

.
.
. **************Table 5. Secondary End Points: Changes from Baseline to 6 weeks,
Individual groups
. tab group if vnum==4

       group |      Freq.     Percent        Cum.
-------------+-----------------------------------
     placebo |         45       25.86       25.86
  tamsulosin |         45       25.86       51.72
    combined |         42       24.14       75.86
ciprofoxacin |         42       24.14      100.00
-------------+-----------------------------------
       Total |        174      100.00

. tabstat d_cpsi if vnum==4, by (group) stat (mean sd)

Summary for variables: d_cpsi
     by categories of: group

       group |      mean        sd
-------------+--------------------
     placebo | -3.366667  5.029911
  tamsulosin | -4.402222  6.258684
    combined | -4.142857  6.082046
ciprofoxacin | -6.154762  7.303932
-------------+--------------------
       Total | -4.494828  6.232121
----------------------------------

. tabstat d_pain if vnum==4, by (group) stat (mean sd)

Summary for variables: d_pain
     by categories of: group

       group |      mean        sd
-------------+--------------------
     placebo | -1.611111  2.868102
  tamsulosin | -2.268889  3.739702
    combined | -1.761905  3.738785
ciprofoxacin | -3.035714  4.584429
-------------+--------------------
       Total | -2.161494  3.774781
----------------------------------

. tabstat d_ur if vnum==4, by (group) stat (mean sd)

Summary for variables: d_ur
     by categories of: group

       group |      mean        sd
-------------+--------------------
     placebo | -.5333333   1.95518
  tamsulosin | -.8777778   1.95156
    combined | -1.047619  1.823992
ciprofoxacin |     -1.25  2.107623
-------------+--------------------
       Total | -.9195402  1.962618
----------------------------------
```

```
. tabstat d_quol if vnum==4, by (group) stat (mean sd)


Summary for variables: d_quol
     by categories of: group

       group |      mean        sd
-------------+--------------------
     placebo | -1.222222  1.498316
  tamsulosin | -1.255556  2.041118
    combined | -1.333333  1.940162
ciprofoxacin | -1.869048  2.444655
-------------+--------------------
       Total | -1.413793  2.001743
----------------------------------

. tabstat d_mcs if vnum==4, by (group) stat (mean sd)

Summary for variables: d_mcs
     by categories of: group

       group |      mean        sd
-------------+--------------------
     placebo |  2.677613  9.477956
  tamsulosin | -.3433529  10.58151
    combined | -.7036242  8.247571
ciprofoxacin |  -1.15931  9.650531
-------------+--------------------
       Total |  .1540143  9.583107
----------------------------------

. tabstat d_pcs if vnum==4, by (group) stat (mean sd)

Summary for variables: d_pcs
     by categories of: group

       group |      mean        sd
-------------+--------------------
     placebo |   1.48452   6.64458
  tamsulosin |  3.872464  7.525675
    combined |  2.713842  7.325626
ciprofoxacin |  2.504551  7.892446
-------------+--------------------
       Total |  2.645039  7.339102
----------------------------------

.
. tab group if sym1>=5 & vnum==4

       group |      Freq.     Percent        Cum.
-------------+-----------------------------------
     placebo |         11       28.21       28.21
  tamsulosin |         12       30.77       58.97
    combined |          5       12.82       71.79
ciprofoxacin |         11       28.21      100.00
-------------+-----------------------------------
       Total |         39      100.00
```

```
.
. ****************Figure 2. Mean values of the NIH CPSI total score over time by
individual treatment group
. tabulate vnum arm, summarize(cpsi)

            Means, Standard Deviations and Frequencies of cpsi

           |                    arm
      vnum |         A          B          C          D |     Total
-----------+--------------------------------------------+----------
         2 | 24.969388   24.55102  25.255102  24.204082 | 24.744898
           | 5.0573875  6.1629309  6.0562661  6.1955279 | 5.8551949
           |        49         49         49         49 |       196
-----------+--------------------------------------------+----------
         3 | 21.713636  20.902128  20.577778  18.803488 | 20.515922
           | 6.9749582  7.1321528  9.1066631  6.8212587 | 7.5815703
           |        44         47         45         43 |       179
-----------+--------------------------------------------+----------
         4 | 21.911111  20.031111  20.952381  17.880952 |  20.22069
           | 6.0408542  7.5527184  9.1517088   8.740716 | 7.9972848
           |        45         45         42         42 |       174
-----------+--------------------------------------------+----------
     Total | 22.934058  21.892199  22.378676  20.489179 | 21.932149
           | 6.1850479  7.1819622  8.3799797   7.762081 | 7.4481854
           |       138        141        136        134 |       549

.
.
end of do-file

. log close

  log type:  text
 closed on:   6 Mar 2012, 17:30:32
-------------------------------------------------------------------------------
```