

Supplemental Instructions for Analyzing Experience of Care and Health Outcomes (ECHO®) Survey Results

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Purpose of Supplemental Instructions

This document explains how to adapt the CAHPS Analysis Program to analyze the results of the ECHO Survey, which is a patient experience survey for behavioral health plans. Comprehensive instructions for using this program are provided in [Instructions for Analyzing Data from CAHPS Surveys](#). Because those instructions were not developed specifically for the ECHO Survey, these supplemental instructions present a few necessary adjustments.

What the Analysis Program Does

The CAHPS Analysis Program generates output that you can use to show how a health plan's (or MBHO's) performance on the ECHO Survey measures compares to the overall performance of all health plans (or MBHOs). The output is in the form of either text output or SAS data sets. That information provides the scores for global ratings, composite measures, and individual items resulting from the ECHO survey.

For a full list of the ratings, composite measures, and individual items, visit [ECHO Survey Measures](#).

Variable Types in the Macro

The macro accepts five variable types.

Variable type	Min – Max response values
1 – Dichotomous	0 – 1
2 – Global rating	0 – 10
3 – How often	1 – 4
4 – Problem Format	1 – 3
5 – Other	min_resp – max_resp

The macro cleans the response values for all of these variable types within the expected minimum and maximum range. For the fifth type, be sure to enter the minimum and maximum response values as an argument.

Recoding Response Values

The CAHPS Team recommends recoding the original response values when using the CAHPS macro to compute the means and variances for:

- the ECHO ratings (responses 0-10 scale),
- composite measures or single items with the “How Often: Never, Sometimes, Usually, Always” scale, and/or
- composite measures or single items with the “Problem: Much worse-Much better” scale.

Ratings and the “How Often” Scale

For the ratings and the “How Often” scale, the CAHPS macro will handle the recoding internally as long as the **RECODE** parameter in the macro call is set appropriately: **RECODE=1**. The following table shows how the macro will recode the ratings and “How Often” scales.

Rating scale		How often scale	
Response value	Recode	Response value	Recode
0-6	1	Never=1 Sometimes=2	1
7-8	2	Usually=3	2
9-10	3	Always=4	3

The “Problem” Scale

For the “Much worse – Much better” scale, you will need to do the recoding yourself in the control program data step that creates the data set used in the CAHPS macro.

- **RECODE parameter:** To have no recoding done internally in the macro, leave the **RECODE** parameter out of the CAHPS macro call or set it to 0 (**RECODE=0**).
- **Variable type parameter:** To have the macro process the variables as a 1-4 scale, set the variable type parameter to 3 (**VARTYPE=3**).

Warning: The labels in the text output and SAS data sets will indicate that this is a “How Often” scale variable rather than a “Problem” scale variable. However, the numbers produced are correct; only the labeling is incorrect.

If your analysis indicates that you need to merge together the “Much better” and “A little better” responses, you can recode the scale to be 1-3 and set the **VARTYPE** parameter to 4. Do **not** use the macro parameter **RECODE** option for this; otherwise, the recoded values for Much worse/A little worse and About the same will get recoded a second time.

Much worse – Much better scale	
Response value	Recode
Much worse=1 A little worse=2	1
About the same=3	2
A little better=4	3
Much better=5	4

Example of SAS Data Step

Below is one example of a SAS data step that you could use to recode the “Much worse – Much better” scale for a composite or item. Once you have done this, you can submit the composite or item through the CAHPS macro, assuming there is a variable age used for the case-mix adjuster.

```
data echo( drop = i ) ;
  set in.test ;

  *Recodes numeric plan variables to character to simplify
  interpretation of the result tables. ;
  length plan $ 16 ;
  if planid = 1 then plan = 'HMO_A_URBAN' ;
  else if planid = 2 then plan = 'HMO_B_URBAN' ;
  else if planid = 7 then plan = 'HMO_C_URBAN' ;
  else if planid = 4 then plan = 'HMO_B_RURAL' ;
  else if planid = 5 then plan = 'HMO_C_RURAL' ;
  else if planid = 6 then plan = 'HMO_BE_1' ;

  *Recodes Much worse-Much better scales from 1-5 to 1-4. ;
  array mwb q31 q32 q33 q34 ;
  do i = 1 to dim ( mwb ) ;
    if mwb [i] = 1 then mwb [i] = 1 ;
    else if mwb [i] = 2 then mwb [i] = 1 ;
    else if mwb [i] = 3 then mwb [i] = 2 ;
    else if mwb [i] = 4 then mwb [i] = 3 ;
    else if mwb [i] = 5 then mwb [i] = 4 ;
  end ;
run ;

* Run the perceived improvement composite through macro ;
%cahps(var = q31 q32 q33 q34,
  vartype = 3,
  name = Perceived Improvement,
  adjuster = age,
  adultkid = 3,
  dataset = echo,
  outname = improv ) ;

* Run the overall rating through macro - SET RECODE = 1 ;
%cahps(var = q28,
```

```

vartype = 3,
name = Overall rating of counseling and treatment,
recode = 1,
adjuster = age,
adultkid = 3,
dataset = echo,
outname = rating ) ;

```

Changing to a Five-Point Scale

If you wanted to see what the results from the macro would be on a five-point scale for the “Much worse – Much better” scale, the macro also has a variable type of 5 (VARTYPE=5) so that you can process all five response values. For this to work, the key is to define the minimum and maximum response values with the parameters MIN_RESP=1 and MAX_RESP=5. The CAHPS macro call would look something like this:

```

%cahps (var = q28,
      vartype = 3,
      name = Overall rating of counseling and
      treatment,
      min_resp = 1,
      max_resp = 5,
      adjuster = age,
      adultkid = 3,
      dataset = echo,
      outname = rating ) ;

```