



Department of  
Job and Family Services

**2012 CAHPS®**  
**OHIO'S AGED, BLIND, OR DISABLED**  
**MEDICAID MANAGED CARE PROGRAM**  
**MEMBER SATISFACTION SURVEY**

**Methodology Report**

**March 2013**



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# Introduction

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## OVERVIEW

The Ohio Department of Job and Family Services (ODJFS) conducts a variety of quality assessment and improvement activities to ensure Medicaid managed care plan (MCP) members have timely access to high quality health care services. These activities include annual surveys of member satisfaction. Survey results provide important feedback on MCP performance, which is used to improve overall member satisfaction with managed care programs.

ODJFS administers member satisfaction surveys for all MCPs in Ohio's Covered Families and Children (CFC) and Aged, Blind, or Disabled (ABD) Medicaid Managed Care Programs. In 2012, the ABD and CFC Medicaid Managed Care Programs were surveyed independently. The standardized survey instrument selected for Ohio's ABD Medicaid Managed Care Program was the Consumer Assessment of Healthcare Providers and Systems (CAHPS<sup>®</sup>) 4.0H Adult Medicaid Health Plan Survey.<sup>1</sup> This report presents the CAHPS methodology for Ohio's ABD Medicaid Managed Care Program.<sup>2</sup>

Four MCPs participated in the 2012 ABD CAHPS Medicaid Health Plan Survey, as listed in Table A-1 below. Members from each MCP completed the survey from February to May 2012.

<b>Table A-1 Participating MCPs</b>	
<b>MCP Name</b>	<b>MCP Abbreviation</b>
Buckeye Community Health Plan, Inc.	Buckeye
CareSource	CareSource
Molina Healthcare of Ohio, Inc.	Molina
UnitedHealthcare Community Plan of Ohio, Inc.	UnitedHealthcare

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<sup>1</sup> CAHPS<sup>®</sup> is a registered trademark of the Agency for Healthcare Research and Quality (AHRQ).

<sup>2</sup> Please refer to Ohio's CFC Medicaid Managed Care Program CAHPS Reports for detailed information regarding the CFC population.

ODJFS administered the 2012 CAHPS Surveys through a contract with Health Services Advisory Group, Inc. (HSAG), its External Quality Review Organization vendor. This Ohio ABD Medicaid Managed Care Program CAHPS Methodology Report is one of three separate reports created by HSAG to provide ODJFS with a comprehensive analysis of the 2012 Ohio ABD Medicaid Managed Care Program CAHPS results.

- The **Full Report** contains seven sections examining the results of the CAHPS Survey: (A) the *Introduction* section provides an overview of the survey administration and response rate information; (B) the *Demographics* section depicts the characteristics of respondents to the CAHPS Survey, as well as demographic data for ABD members who completed a survey; (C) the *Respondent/Non-Respondent Analysis* section compares the demographic characteristics of the CAHPS Survey ABD respondents to the non-respondents; (D) the *National Committee for Quality Assurance (NCQA) Comparisons* section analyzes the CAHPS results using the Healthcare Effectiveness Data and Information Set (HEDIS®) CAHPS methodology, comparing the results of Ohio's ABD Medicaid Managed Care Program members to NCQA's 2012 CAHPS 4.0H benchmarks and thresholds;<sup>3</sup> (E) the *Ohio Comparisons* section analyzes the CAHPS results using ODJFS' methodology and the Agency for Healthcare Research and Quality's (AHRQ's) analysis program, which enables ODJFS to identify whether there are outlier MCPs on the global ratings, composite measures, composite items, individual items, and additional items; (F) the *Summary of Results* section summarizes the results in the NCQA and Ohio Comparisons sections; and (G) the *Reader's Guide* section provides additional information to aid in the interpretation of the results presented in Ohio's ABD Medicaid Managed Care Program CAHPS Full Report.
- The **Executive Summary Report** contains three sections that provide a high-level overview of the major CAHPS results presented in Ohio's ABD Medicaid Managed Care Program CAHPS Full Report: (A) the *Introduction* section provides an overview of the survey administration and a summary of findings; (B) the *NCQA Comparisons* section analyzes the CAHPS results using the HEDIS CAHPS methodology; and (C) the *Ohio Comparisons* section analyzes the CAHPS results using ODJFS' methodology and AHRQ's analysis program, which enables ODJFS to identify whether there are outlier MCPs on the global ratings, composite measures, and individual items.
- The **Methodology Report** contains four sections that provide a detailed description of the methodology used to perform the CAHPS analyses for Ohio's ABD Medicaid Managed Care Program: (A) the *Introduction* section provides an overview of the CAHPS Surveys and the survey administration; (B) the *Data Analysis* section describes the methodology used to calculate response rates, calculate demographic frequencies, perform the respondent/non-respondent analysis, and perform the analyses within the NCQA Comparisons and Ohio Comparisons sections in Ohio's ABD Medicaid Managed Care Program CAHPS Full Report and Executive Summary Report; (C) the *Reader's Guide* section provides additional information to aid in the interpretation of the results presented in all of Ohio's ABD

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<sup>3</sup> HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA).

Medicaid Managed Care Program CAHPS Reports; and (D) the *Survey Instrument* section provides a copy of the CAHPS 4.0H Adult Medicaid Health Plan Survey selected for Ohio's ABD Medicaid Managed Care Program Member Satisfaction Survey.

## **SURVEY INSTRUMENT**

The survey instrument selected was the CAHPS 4.0H Adult Medicaid Health Plan Survey. This is the HEDIS version required by NCQA for use during HEDIS reporting year 2012 which represents measurement year 2011. The CAHPS Survey is a standardized survey that assesses patient perspectives on care. Originally, CAHPS was a five-year collaborative project sponsored by AHRQ. The CAHPS questionnaires and consumer reports were developed under cooperative agreements among AHRQ, Harvard Medical School, RAND, and the Research Triangle Institute (RTI). In 1997, NCQA, in conjunction with AHRQ, created the CAHPS 2.0H Survey measure as part of NCQA's HEDIS. In 2002, AHRQ convened the CAHPS Instrument Panel to re-evaluate and update the CAHPS Surveys and to improve the state-of-the-art methods for assessing members' experiences with care. The result of this re-evaluation and update process was the development of the CAHPS 3.0H Surveys.<sup>4</sup> In 2006, the CAHPS Surveys were re-evaluated again. The result was the development of the CAHPS 4.0 Surveys. The CAHPS 4.0H Adult Survey was released for use in 2007, and the CAHPS 4.0H Child Survey was released for use in 2009.<sup>5,6</sup> The overarching goal of the CAHPS Surveys is to effectively and efficiently obtain information from the person receiving care. NCQA also includes CAHPS results as part of the scoring algorithm in its accreditation program for health plans.

The HEDIS sampling and data collection procedures for the CAHPS Surveys are designed to maximize the number of respondents to capture accurate and complete information about consumer-reported experiences with health care. The sampling and data collection procedures promote both the standardized administration of survey instruments and the comparability of the resulting health plan data. The administration of the survey was completed with strict adherence to required specifications.

The CAHPS Adult Medicaid questionnaire set is included in Section D of this report. The survey assesses topics such as quality of care, access to care, the communication skills of providers and administrative staff, and overall satisfaction with health plans and providers.

The CAHPS 4.0H Adult Medicaid Health Plan Survey was fielded from February to May 2012 for MCP members who met the enrollment and age criteria during calendar year 2011. This survey provides Ohio's ABD Medicaid Managed Care Program and its MCPs with comprehensive survey

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<sup>4</sup> National Committee for Quality Assurance. *HEDIS® 2003, Volume 3: Specifications for Survey Measures*. Washington, DC: NCQA Publication, 2002.

<sup>5</sup> National Committee for Quality Assurance. *HEDIS® 2007, Volume 3: Specifications for Survey Measures*. Washington, DC: NCQA Publication, 2006.

<sup>6</sup> National Committee for Quality Assurance. *HEDIS® 2009, Volume 3: Specifications for Survey Measures*. Washington, DC: NCQA Publication, 2008.

results to enhance the communication of this important MCP satisfaction information to consumers.

The CAHPS 4.0H Adult Medicaid Health Plan Survey includes 56 core questions that yield 11 measures of satisfaction. These measures include four global rating questions, five composite measures, and two individual item measures. The global ratings reflect overall satisfaction with the health plan, health care, personal physicians, and specialists. The composite measures are sets of questions grouped together to address different aspects of care (e.g., “getting needed care” or “getting care quickly”). The individual item measures are individual questions that look at a specific area of care (i.e., “health promotion and education” and “coordination of care”). Table A-2 lists the global ratings, composite measures, and individual items included in the CAHPS Adult Medicaid Health Plan Survey.

<b>Table A-2 CAHPS Adult Medicaid Measures</b>		
Global Ratings	Composite Measures	Individual Items
Rating of Health Plan	Getting Needed Care	Health Promotion and Education
Rating of All Health Care	Getting Care Quickly	Coordination of Care
Rating of Personal Doctor	How Well Doctors Communicate	
Rating of Specialist Seen Most Often	Customer Service	
	Shared Decision Making	

## **SAMPLING PROCEDURES**

### **Sample Frame**

The members eligible for sampling included those who were MCP members at the time the sample was drawn, were continuously enrolled in the MCP for at least five of the last six months (July through December) of 2011, and were 18 years of age or older (as of December 31, 2011).<sup>7</sup> Table A-3 provides a breakout of the sample frames for each MCP.

<b>Table A-3 MCP Sample Frame Sizes</b>	
<b>MCP</b>	<b>Sample Frame</b>
<b>Buckeye</b>	16,053
<b>CareSource</b>	55,454
<b>Molina</b>	24,982
<b>UnitedHealthcare</b>	12,296

### **Sample Size**

A random sample of 1,755 members was selected from each participating MCP, and a total of 7,020 adult surveys were mailed out for the four participating MCPs in the State of Ohio.

NCQA protocol permits oversampling in increments of 5 percent. A 30 percent oversample was performed on the ABD population. This oversampling was performed to ensure a greater number of respondents to each CAHPS measure.

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<sup>7</sup> All ABD members met the minimum NCQA age requirement of 18 given that members must be 21 years of age or older to be ABD eligible.

## **SURVEY PROTOCOL**

The survey administration protocol was designed to achieve a high response rate from members, thus minimizing the potential effects of non-response bias. The survey process allowed members two methods by which they could complete the surveys. The first phase, or mail phase, consisted of a survey being mailed to all sampled members. All sampled members received an English version of the survey. A second survey mailing was sent out to all non-respondents. The second phase, or telephone phase, consisted of Computer Assisted Telephone Interviewing (CATI) for sampled members who had not mailed in a completed survey. A series of at least three CATI calls was made to each non-respondent.<sup>8</sup> It has been shown that the addition of the telephone phase aids in the reduction of non-response bias by increasing the number of respondents who are more demographically representative of a health plan's population.<sup>9</sup>

HSAG followed NCQA HEDIS Specifications for Survey Measures in conducting the CAHPS Survey. HEDIS specifications require that HSAG be provided a list of all eligible members for the sampling frame. Following HEDIS requirements, HSAG sampled members who met the following criteria:

- Were 18 years of age or older as of December 31, 2011<sup>10</sup>
- Were currently enrolled in the ABD MCP
- Had been continuously enrolled for at least five of the last six months of 2011

HSAG inspected a sample of the file records to check for any apparent problems with the files, such as missing address elements. Each MCP's sampled population was passed through the United States Postal Service's National Change of Address (NCOA) system to obtain new addresses for members who had moved (if they had given the U.S. Postal Service a new address). Prior to initiating CATI, HSAG employed the TeleMatch telephone number verification service to locate and/or update telephone numbers for all non-respondents. Following NCQA requirements, random samples were selected for each population with no more than one member being selected per household.

The HEDIS specifications for CAHPS require that the name of the health plan appear in the questionnaires, letters, and postcards; that the letters and cards bear the signature of a high-ranking health plan or State official; and that the questionnaire packages include a postage-paid reply envelope addressed to the organization conducting the survey. HSAG complied with these specifications.

According to HEDIS specifications for the CAHPS Surveys, this survey was completed using the time frames shown in Table A-4.

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<sup>8</sup> National Committee for Quality Assurance. *Quality Assurance Plan for HEDIS 2012 Survey Measures*. Washington, DC: NCQA Publication, 2011.

<sup>9</sup> Fowler FJ Jr., Gallagher PM, Stringfellow VL, et al. "Using Telephone Interviews to Reduce Nonresponse Bias to Mail Surveys of Health Plan Members." *Medical Care*. 2002. 40(3): 190-200.

<sup>10</sup> All ABD members met the minimum NCQA age requirement of 18 given that members must be 21 years of age or older to be ABD eligible.

<b>Table A-4 CAHPS Survey Time Frames<sup>11</sup></b>	
<b>Basic Tasks for Conducting the Survey</b>	<b>Time Frames</b>
Send first questionnaire with cover letter to the member.	0 days
Send a second questionnaire (and letter) to non-respondents approximately 35 days after mailing the first questionnaire.	35 days
Initiate CATI interviews for non-respondents approximately 21 days after mailing the second questionnaire.	56 days
Initiate systematic contact for all non-respondents such that at least three telephone calls are attempted at different times of the day, on different days of the week, and in different weeks.	56–70 days
Telephone follow-up sequence completed (i.e., completed interviews obtained or maximum calls reached for all non-respondents) approximately 14 days after initiation.	70 days

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<sup>11</sup> National Committee for Quality Assurance. *HEDIS 2012, Volume 3: Specifications for Survey Measures*. Washington, DC: NCQA Publication, 2011.

# Data Analysis

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A number of different analyses were performed to generate the Ohio ABD Medicaid Managed Care Program CAHPS 2012 Survey results. This section provides a detailed discussion of each of the analyses used to generate the Ohio ABD Medicaid Managed Care Program CAHPS Reports.

## RESPONSE RATES

The administration of the CAHPS Survey was comprehensive and is designed to achieve the highest possible response rate. A high response rate facilitates the generalization of the survey responses to an MCP's population. The response rate is the total number of completed surveys divided by all eligible members of the sample.<sup>1</sup> A member's survey was assigned a disposition code of "completed" if any one question was answered within the survey. Eligible members included the entire random sample (including any oversample) minus ineligible members. Ineligible members of the sample met one or more of the following criteria: they were deceased, they were invalid (they did not meet criteria described on page A-6 of this report), they were mentally or physically incapacitated, or they had a language barrier.

$$\text{Response Rate} = \frac{\text{Number of Completed Surveys}}{\text{Random Sample} - \text{Ineligibles}}$$

## DEMOGRAPHICS

For Ohio's ABD Medicaid Managed Care Program CAHPS Full Report, an analysis was performed on a series of survey questions focusing on demographic and health-related items. Table B-1, on page B-2, depicts the source of the data (either the survey or administrative data) used in calculating the frequencies for the demographic and health-related items in the analysis presented in Ohio's ABD Medicaid Managed Care Program CAHPS Full Report.

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<sup>1</sup> National Committee for Quality Assurance. *HEDIS 2012, Volume 3: Specifications for Survey Measures*. Washington, DC: NCQA Publication, 2011.

<b>Table B-1 Demographic Items Analyzed in the Full Report</b>	
<b>Demographic Category</b>	<b>Source of Data (Survey Question Number or Administrative)</b>
Age	Administrative
Gender	Administrative
Education	52
Race and Ethnicity	Administrative
Health Status	36

## RESPONDENT/NON-RESPONDENT ANALYSIS

For Ohio's ABD Medicaid Managed Care Program CAHPS Full Report, an analysis of the demographic characteristics of the respondents and non-respondents to the Ohio CAHPS Survey was conducted. The demographic information analyzed was derived from administrative data. Member age, gender, race and ethnicity were broken into categories and analyzed for statistically significant differences between the respondent and non-respondent populations.

### Hypothesis Test

One type of hypothesis test was applied to the results in the Respondent/Non-Respondent Analysis section. A *t* test was performed to determine whether the percentage of respondents within a particular demographic category was significantly different from the percentage of non-respondents. The equation for the differences was as follows:

$$\Delta_p = \hat{\mu}_p - \hat{\mu}_{p'}$$

In this equation,  $\hat{\mu}_p$  was the percentage of respondents and  $\hat{\mu}_{p'}$  was the percentage of non-respondents.

The variance of  $\Delta_p$  was:

$$\hat{V}(\Delta_p) = [(P-1)/P]^2 \hat{V}_p + 1/P^2 \sum_{p'} \hat{V}_{p'}$$

The *t* statistic was  $\Delta_p / \hat{V}(\Delta_p)^{1/2}$  and had a *t* distribution with  $(n_p - 1)$  degrees of freedom. This statistic also produced *p* values that were slightly larger than they should have been; therefore, finding significant differences between the respondent and non-respondent percentages was less likely.

### **Assignment of Arrows**

Arrows were assigned to each MCP's respondent percentages to indicate whether there were statistically significant differences between the respondent percentages within a particular demographic category and the non-respondent percentages for that MCP. Arrows were also assigned to Ohio's ABD Medicaid Managed Care Program's respondent percentages to indicate whether there were statistically significant differences between the respondent percentages within a particular demographic category and the non-respondent percentages for Ohio's ABD Medicaid Managed Care Program. The difference between the respondent and non-respondent percentages was considered significant if the two-sided  $p$  value of the  $t$  test was less than 0.05. MCP-level and program-level percentages for the respondent population that were statistically higher than the non-respondent population are noted with upward ( $\uparrow$ ) arrows. MCP-level and program-level percentages for the respondent population that were statistically lower than the non-respondent population are noted with downward ( $\downarrow$ ) arrows. MCP-level and program-level percentages for the respondent population that were not statistically different than the non-respondent population are not noted with arrows.

## NCQA ANALYSIS

An analysis of the Ohio CAHPS Survey results was conducted using NCQA protocol for Ohio's ABD Medicaid Managed Care Program CAHPS Full Report and Executive Summary Report. The results were calculated in accordance with HEDIS specifications for survey measures.<sup>2</sup> Per HEDIS specifications, no weighting, trending, or case-mix adjustment was performed on the results. NCQA also requires a minimum of 100 responses on each measure in order to report the measure as a CAHPS/HEDIS result. The following methodology was used to perform the NCQA analysis. Members in Ohio's ABD Medicaid Managed Care Program were included in this analysis.

### Three-Point Mean Calculations

Three-point means, variances, and 95 percent confidence intervals were calculated for each of the four global rating questions (Rating of Health Plan, Rating of All Health Care, Rating of Personal Doctor, and Rating of Specialist Seen Most Often). Scoring was based on a three-point scale: response values of 0 through 6 were given a score of 1; response values of 7 and 8 were given a score of 2; and response values of 9 and 10 were given a score of 3.

The three-point global rating mean was the sum of the response scores (1, 2, or 3) divided by the total number of responses to the global rating question. A minimum of 100 responses to the global rating question was required in order for the three-point global rating mean to be reported.

$$\text{Global Rating Mean (GRM)} = \sum_i^n \frac{x}{n}$$

*i = 1, ..., n members responding to question*  
*x = score of member on question (either 1, 2, or 3)*

An unbiased variance was calculated for each three-point global rating mean using a standard, unbiased variance formula where  $x$  was the score value (1, 2, or 3).

$$\text{Global Rating Variance (GRV)} = \sum_i^n \frac{(x - \bar{x})^2}{n-1}$$

*i = 1, ..., n members responding to question*  
*x = score of member on question (either 1, 2, or 3)*  
 *$\bar{x}$  = mean global rating score*

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<sup>2</sup> National Committee for Quality Assurance. *HEDIS 2012, Volume 3: Specifications for Survey Measures*. Washington, DC: NCQA Publication, 2011.

The unbiased mean and variance were used to calculate a 95 percent confidence interval for each three-point global rating mean. The following formula was used to calculate the 95 percent confidence interval for the three-point global rating means:

$$\text{Global Rating 95\% Confidence Interval} = (GRM) \pm 1.96 \sqrt{\frac{GRV}{n}}$$

Three-point means, variances, and 95 percent confidence intervals were calculated for the composite measures. In general, scoring was based on a three-point scale: responses of “Always” or “Definitely Yes” were given a score of 3, responses of “Usually” or “Somewhat Yes” were given a score of 2, and all other responses were given a score of 1. Table B-2, on page B-6, illustrates how the three-point composite score values were determined.

The three-point composite mean was the average of the mean score for each question included in the composite measure. That is, each question contributed equally to the average, regardless of the number of respondents to the question. An average number of at least 100 responses across all questions within the composite was required in order for the three-point composite mean to be reported.

$$\text{Composite Measure Mean (CMM)} = \frac{1}{m} \sum_{i=1}^m \left( \sum_{j=1}^{n_i} \frac{x_{ij}}{n_i} \right)$$

*i* = 1, ..., *m* questions in a composite  
*j* = 1, ..., *n<sub>i</sub>* members responding to question *i*  
*x<sub>ij</sub>* = score of member *j* on question *i* (either 1, 2, or 3)

An unbiased variance was calculated for each three-point composite mean. The following formula was used to calculate the composite variance:

$$\text{Composite Measure Variance (CMV)} = \frac{N}{N-1} \sum_{j=1}^N \left( \sum_{i=1}^m \frac{1}{m} * \frac{x_{ij} - \bar{x}_i}{n_i} \right)^2$$

*i* = 1, ..., *m* questions in a composite  
*j* = 1, ..., *n<sub>i</sub>* members responding to question *i*  
*x<sub>ij</sub>* = score of member *j* on question *i* (either 1, 2, or 3)  
*x̄<sub>i</sub>* = average score for question *i*  
*N* = number of members responding to at least one question in the composite

The unbiased mean and variance were used to calculate a 95 percent confidence interval for each three-point composite mean. The following formula was used to calculate the 95 percent confidence interval for the three-point composite means:

$$\text{Composite 95\% Confidence Interval} = (CMM) \pm 1.96 \sqrt{CMV}$$

<b>Table B-2 Determining Three-Point Score Values</b>	
Response Category	Score Values
<i>Global Ratings: 0-10 Format</i>	
0 - 6	1
7 - 8	2
9 - 10	3
<i>Composite Measures: Never/Sometimes/Usually/Always Format</i>	
Never	1
Sometimes	1
Usually	2
Always	3
<i>Composite Measure: Definitely No/Somewhat No/Somewhat Yes/Definitely Yes Format</i>	
Definitely No	1
Somewhat No	1
Somewhat Yes	2
Definitely Yes	3

## Question Summary Rate Calculations

In addition to the three-point means, question summary rates and their corresponding variances and 95 percent confidence intervals were calculated for each global rating question. Response choices of 9 or 10 were assigned a score value of 1, and all other response choices were assigned a score value of 0. Table B-3, on page B-9, illustrates how the question summary rate score values were determined.

The question summary rate was the sum of the score values (0 or 1) divided by the total number of responses to the rating question. A minimum of 100 responses to the global rating question was required for the question summary rate to be reported.

$$\text{Question Summary Rate (QSR)} = \sum_i^n \frac{x}{n}$$

*i = 1, ..., n members responding to question*  
*x = score of member on question (either 0 or 1)*

An unbiased variance was calculated for each question summary rate using a standard, unbiased variance formula where *x* was the score value (0 or 1).

$$\text{Question Summary Rate Variance (QSRV)} = \sum_i^n \frac{(x - \bar{x})^2}{n-1}$$

*i = 1, ..., n members responding to question*  
*x = score of member on question (either 0 or 1)*  
 *$\bar{x}$  = mean question summary rate*

The unbiased mean and variance were used to calculate a 95 percent confidence interval for each question summary rate. The following formula was used to calculate the 95 percent confidence interval for each question summary rate:

$$\text{Question Summary Rate 95\% Confidence Interval} = (\text{QSR}) \pm 1.96 \sqrt{\frac{\text{QSRV}}{n}}$$

## Global Proportion Calculations

In addition to the three-point means, global proportions and their corresponding variances and 95 percent confidence intervals were calculated for each composite measure. For the Getting Needed Care, Getting Care Quickly, How Well Doctors Communicate, and Customer Service composite measures, responses of “Always” were assigned a score value of 1, and all other response choices were assigned a score value of 0. For the Shared Decision Making composite measure, responses of “Definitely Yes” were assigned a score value of 1, and all other response choices were assigned a score value of 0. Table B-3, on page B-9, illustrates how the global proportion score values were determined.

The composite global proportion was calculated by first determining the average score (i.e., proportion responding with a score of 1 for each question). This step was repeated for each of the questions in the composite. Finally, the average proportion responding with a score of 1 was determined across all of the questions in the composite. This average was the composite global proportion. That is, each question contributed equally to the average regardless of the number of respondents to the question. An average of at least 100 responses across all questions within the composite was required for the composite global proportion to be reported.

$$\text{Composite Global Proportion (GP)} = \frac{1}{m} \sum_{i=1}^m \left( \sum_{j=1}^{n_i} \frac{x_{ij}}{n_i} \right)$$

*i = 1, ..., m questions in a composite*  
*j = 1, ..., n<sub>i</sub> members responding to question i*  
*x<sub>ij</sub> = score of member j on question i (either 0 or 1)*

An unbiased variance was calculated for each composite global proportion. The following formula was used to calculate the composite global proportion variance:

$$\text{Composite GP Variance (GPV)} = \frac{N}{N-1} \sum_{j=1}^N \left( \sum_{i=1}^m \frac{1}{m} * \frac{x_{ij} - \bar{x}_i}{n_i} \right)^2$$

*i = 1, ..., m questions in a composite*  
*j = 1, ..., n<sub>i</sub> members responding to question i*  
*x<sub>ij</sub> = score of member j on question i (either 0 or 1)*  
 *$\bar{x}_i$  = average score for question i*  
*N = number of members responding to at least one question in the composite*

The unbiased mean and variance were used to calculate a 95 percent confidence interval for each composite global proportion. The following formula was used to calculate the 95 percent confidence interval for each composite global proportion:

$$\text{Composite GP 95\% Confidence Interval} = (GP) \pm 1.96\sqrt{GPV}$$

<b>Table B-3</b>	
<b>Determining Question Summary Rate and Global Proportion Score Values</b>	
Response Category	Score Values
<i>Global Ratings: 0–10 Format</i>	
0 – 8	0
9 – 10	1
<i>Composite Measures: Never/Sometimes/Usually/Always Format</i>	
Never	0
Sometimes	0
Usually	0
Always	1
<i>Composite Measure: Definitely No/Somewhat No/Somewhat Yes/Definitely Yes Format</i>	
Definitely No	0
Somewhat No	0
Somewhat Yes	0
Definitely Yes	1

## Overall Member Satisfaction Table

The Overall Member Satisfaction Table in the NCQA Comparisons section of Ohio's ABD Medicaid Managed Care Program CAHPS Full Report depicts member satisfaction using a one- to five-star rating system. Star assignments are based on NCQA's 2012 CAHPS 4.0H Benchmarks and Thresholds for Accreditation, except the Shared Decision Making composite.<sup>3</sup> NCQA does not publish benchmarks and thresholds for the Shared Decision Making composite; therefore, the Shared Decision Making star assignments were based on NCQA's 2012 National Adult Medicaid data.<sup>4</sup>

Each year, NCQA releases the national benchmarks and thresholds for the HEDIS/CAHPS Survey results required for NCQA's accreditation of managed care organizations (MCOs) for the Medicaid population.<sup>5</sup> NCQA requires MCOs to submit HEDIS and CAHPS data as part of the MCO accreditation process. Using these data submissions, NCQA recalculates the summary statistics annually for each HEDIS measure. These recalculated national results are compared to the prior year's accreditation benchmarks and thresholds. If there is minimal change to the national performance, accreditation benchmarks and thresholds are held constant. If performance changes, NCQA considers updating the benchmarks and thresholds. In addition, should changes to the measures impact trending, NCQA will recalculate the benchmarks and thresholds and update as necessary to hold plans harmless. In 2012, NCQA received a total of 128 adult Medicaid CAHPS submissions. The 2012 NCQA national numbers presented in Ohio's ABD Medicaid Managed Care Program CAHPS Full Report were based on the NCQA data submissions of these health plans.<sup>6</sup>

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<sup>3</sup> National Committee for Quality Assurance. *HEDIS/CAHPS 4.0H Benchmarks and Thresholds for Accreditation 2012*. Washington, DC: NCQA. August 1, 2012.

<sup>4</sup> NCQA National Distribution of 2012 Adult Medicaid Plan-Level Results. Prepared by NCQA for HSAG on January 2, 2013.

<sup>5</sup> National Committee for Quality Assurance. *HEDIS/CAHPS 4.0H Benchmarks and Thresholds for Accreditation 2012*. Washington, DC: NCQA. August 1, 2012.

<sup>6</sup> The actual number of plan submissions on which the national benchmarks and thresholds and national numbers are based on varies for each global rating and composite measure.

The Overall Member Satisfaction Table depicts member satisfaction using a one- to five-star rating system. The star assignments were based on NCQA's 2012 CAHPS 4.0H Benchmarks and Thresholds, except the Shared Decision Making composite.<sup>7</sup> NCQA does not publish benchmarks and thresholds for the Shared Decision Making composite; therefore, the Shared Decision Making star assignments were based on NCQA's 2012 National Adult Medicaid data.<sup>8</sup>

- ★★★★★ - indicates a score at or above the 90th percentile
- ★★★★ - indicates a score at or between the 75th and 89th percentiles
- ★★★ - indicates a score at or between the 50th and 74th percentiles
- ★★ - indicates a score at or between the 25th and 49th percentiles
- ★ - indicates a score below the 25th percentile

Table B-4, on page B-12, provides a crosswalk of the number of stars to the member three-point means on the global ratings and composite measures.

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<sup>7</sup> National Committee for Quality Assurance. *HEDIS/CAHPS 4.0H Benchmarks and Thresholds for Accreditation 2012*. Washington, DC: NCQA. August 1, 2012.

<sup>8</sup> NCQA National Distribution of 2012 Adult Medicaid Plan-Level Results. Prepared by NCQA for HSAG on January 2, 2013.

<b>Table B-4</b>					
<b>Overall Member Satisfaction Ratings Crosswalk</b>					
NUMBER OF STARS					
AREA RATED	★	★★	★★★	★★★★	★★★★★
<b>GLOBAL RATINGS</b>					
Health Plan	0 - 2.309	2.310 - 2.379	2.380 - 2.459	2.460 - 2.539	≥ 2.540
All Health Care	0 - 2.229	2.230 - 2.289	2.290 - 2.349	2.350 - 2.389	≥ 2.390
Personal Doctor	0 - 2.399	2.400 - 2.449	2.450 - 2.509	2.510 - 2.559	≥ 2.560
Specialist Seen Most Often	0 - 2.409	2.410 - 2.459	2.460 - 2.499	2.500 - 2.559	≥ 2.560
<b>COMPOSITE MEASURES</b>					
Getting Needed Care	0 - 2.179	2.180 - 2.279	2.280 - 2.349	2.350 - 2.419	≥ 2.420
Getting Care Quickly	0 - 2.319	2.320 - 2.389	2.390 - 2.429	2.430 - 2.469	≥ 2.470
How Well Doctors Communicate	0 - 2.479	2.480 - 2.539	2.540 - 2.579	2.580 - 2.639	≥ 2.640
Customer Service	0 - 2.319	2.320 - 2.399	2.400 - 2.469	2.470 - 2.529	≥ 2.530
Shared Decision Making*	0 - 2.464	2.465 - 2.510	2.511 - 2.554	2.555 - 2.594	≥ 2.595
<p><i>Note: Source of star benchmarks: NCQA. HEDIS/CAHPS 4.0H Benchmarks and Thresholds for Accreditation 2012. Washington, DC: NCQA. August 1, 2012.</i></p> <p><i>*Source of national distribution for the Shared Decision Making composite: NCQA National Distribution of 2012 Adult Medicaid Plan-Level Results. Prepared by NCQA for HSAG on January 2, 2013.</i></p>					

## OHIO COMPARISONS ANALYSIS

An analysis of the Ohio CAHPS results was conducted for the Ohio Comparisons section of Ohio's ABD Medicaid Managed Care Program CAHPS Full Report and Executive Summary Report. The Ohio Comparisons section presents results based on ODJFS' analytic methodology using AHRQ's analysis program. This section reports the case-mix-adjusted results for all ABD members completing a CAHPS Survey. No threshold number of responses was required for the results to be reported in the Ohio Comparisons section.<sup>9</sup> The following methodology was used in performing this analysis.

### Overall Mean Calculations

For each global rating, composite measure, composite item, and question within four specific areas of interest, an overall mean was calculated. For the global ratings, the overall mean was provided on a scale of 0 to 10. For the composite measures and composite items, the overall mean was provided on a three-point scale. Additional information on how the composite measures and composite items were scored to compute the overall means can be found in Table B-2 on page B-6. For the questions within the four areas of interest, the overall mean was provided on a three-point scale or on a scale of 0 to 1, depending on the item.

The global rating overall mean was the sum of the response scores (from 0 to 10) divided by the total number of responses to the global rating question.

$$\begin{aligned} \text{Global Rating} \\ \text{Overall Mean} \\ \text{(GRM)} \end{aligned} &= \sum_i^n \frac{x}{n}$$

*i = 1, ..., n members responding to question*  
*x = score of member on question (from 0 to 10)*

The composite measure overall mean was the average of the mean score for each question included in the composite. That is, each question contributed equally to the average regardless of the number of respondents to the question.

$$\begin{aligned} \text{Composite Measure} \\ \text{Overall Mean} \end{aligned} &= \frac{1}{m} \sum_{i=1}^m \left( \frac{\sum_{j=1}^{n_i} x_{ij}}{n_i} \right)$$

*i = 1, ..., m questions in a composite*  
*j = 1, ..., n<sub>i</sub> members responding to question i*  
*x<sub>ij</sub> = score of member j on question i (from 1 to 3)*

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<sup>9</sup> NCQA requires a minimum of 100 responses on each measure in order to report the measure as a CAHPS/HEDIS result.

The overall mean for each composite item and each question within the four specific areas of interest was the sum of the response scores divided by the total number of responses to the item.

$$\text{Item Overall Mean} = \sum_i^n \frac{x}{n}$$

*i = 1, ..., n members responding to item*  
*x = score of member on item*

## Response Category Proportions

Response category proportions were calculated for each global rating, composite measure, composite item, and question within four specific areas of interest. For the global ratings, responses were classified into three categories: 9 to 10 (best), 7 to 8, and 0 to 6 (worst). For the composite measures and composite items with a top-box score of “Always,” responses were classified into three categories: “Always,” “Usually,” and “Sometimes/Never.” For the composite measure and composite items with a top-box score of “Definitely Yes,” responses were classified into three categories: “Definitely Yes,” “Somewhat Yes,” and “Somewhat No/Definitely No.”

For the global ratings, composite items, and questions within the four areas of interest, each of the response category proportions was calculated using the standard question summary rate formula. In other words, separate response category proportions (or question summary rates) were calculated for each of the response categories. Therefore, the total of these response category proportions was 100 percent.

$$\text{Question Summary Rate (QSR)} = \sum_i^n \frac{x}{n}$$

*i = 1, ..., n members responding to question*  
*x = score of member on question (either 0 or 1)*

For the composite measures, each of the response category proportions was calculated using the standard global proportion formula. In other words, separate response category proportions (or global proportions) were calculated for each of the response categories. Therefore, the total of these response category proportions was 100 percent.

$$\text{Composite Global Proportion (GP)} = \frac{1}{m} \sum_{i=1}^m \left( \sum_{j=1}^{n_i} \frac{x_{ij}}{n_i} \right)$$

*i = 1, ..., m questions in a composite*  
*j = 1, ..., n<sub>i</sub> members responding to question i*  
*x<sub>ij</sub> = score of member j on question i (either 0 or 1)*

## Case-Mix Adjustment

CAHPS Surveys can identify differences in the quality of care provided by MCPs or differences in the perceptions of care of various population subgroups within MCPs. However, the characteristics of respondents can influence CAHPS results. Certain characteristics, such as reported member health status, age, and education, have been shown to impact members' responses to questions regarding the quality of their health care.<sup>10</sup> Healthier people typically report fewer problems and greater satisfaction with their health care. Older people also tend to be more satisfied with their care. However, people with higher levels of education are more likely to report problems and lower satisfaction with their health care. Given that differences in MCP case mix may lead to varied CAHPS results among MCPs that are not due to differences in quality, the data were adjusted to minimize the effect of these respondent characteristics on the MCP-level results. By accounting for differences in respondent characteristics, case-mix adjustment enhances the comparability of CAHPS results among different MCPs.

Case-mix adjustment was performed on the Ohio ABD population using self-reported health status, educational level, and age.<sup>11,12</sup> The case-mix adjustment was performed using standard regression techniques (i.e., covariance adjustment). If data were missing for any of the adjuster variables, rather than losing those observations, an MCP's mean for those adjuster variables was imputed. Typically, the overall impact of the case-mix adjustment and imputation of missing values is small.

MCP-level case-mix-adjusted mean scores in 2012 for the global ratings, composite measures, composite items, and questions within the areas of interest were compared to the program average mean scores in 2012 to determine whether there were statistically significant differences between the mean scores for each MCP and the program average mean scores.<sup>13</sup> Each of the response category proportions and the overall means were compared for statistically significant differences. The program average used in the tests for statistical significance was different from the program average provided in the bar graphs. The program average mean scores provided in the bar graphs were weighted and case-mix adjusted. However, the program average used in the tests for statistical significance was the average of the MCP-level case-mix-adjusted mean scores (i.e., the mean of the means).

MCP-level case-mix-adjusted mean scores in 2012 were compared to the MCP-level case-mix-adjusted mean scores in 2011 to determine whether there were statistically significant differences between mean scores in 2012 and mean scores in 2011. For each MCP, its 2012 mean scores were compared to its 2011 mean scores. For Ohio's ABD Medicaid Managed Care Program (the

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<sup>10</sup> Agency for Healthcare Research and Quality. *CAHPS Health Plan Survey and Reporting Kit 2008*. Rockville, MD: US Department of Health and Human Services, July 2008.

<sup>11</sup> Ibid.

<sup>12</sup> Self-reported health status was derived from responses to question 36. Educational level was derived from responses to question 52. Age was derived from responses to question 50.

<sup>13</sup> The term "mean scores" refers to the overall means and the response category proportions.

program average), its 2012 mean scores were compared to its 2011 mean scores. Each of the response category proportions and the overall means were compared for statistically significant differences.

## **Weighting**

Results for Ohio's ABD Medicaid Managed Care Program were weighted based on the sample frame size (i.e., eligible population) for each MCP. MCP-level results were not weighted. Respondent-level weights were calculated using the following formula:

$$\text{Weight Variable} = \frac{\text{Total Number of Members in the Managed Care Program Population}}{\text{Number of Respondents in the Managed Care Program Population}}$$

The number of respondents in the weighting formula was the number of responses to the global rating, composite measure, or individual item. For composites, this respondent number was the number of responses to at least one question in the composite.

## **Supplemental Detailed Analytic Discussion**

This supplemental section provides additional detail on the approach used to analyze the CAHPS Survey results in the Ohio Comparisons section of Ohio's ABD Medicaid Managed Care Program CAHPS Full Report and Executive Summary Report. Please note that this approach is the standard analytic approach recommended by AHRQ and is discussed in greater detail in the CAHPS Health Plan Survey and Reporting Kit 2008.<sup>14</sup>

### ***Case-Mix Adjustment***

The model below illustrates the adjustment of a response to a single item  $i$  in the CAHPS Surveys:

$$y_{ipj} = \beta'_i x_{ipj} + \mu_{ip} + \varepsilon_{ipj}$$

In this equation,  $y_{ipj}$  represented the response of respondent  $j$ , who was a member of MCP  $p$ , to item  $i$ ;  $\beta_i$  was a regression coefficient vector;  $x_{ipj}$  was a covariate vector which consisted of the three adjuster covariates of self-reported health status, educational level, and age;  $\mu_{ip}$  was an intercept parameter for MCP  $p$ ; and  $\varepsilon_{ipj}$  was the error term.

The equation below provided the estimates derived from the above model:

$$\left( \hat{\beta}'_i \hat{\mu}'_i \right) = (\mathbf{X}'\mathbf{X})^{-1} \mathbf{X}'\mathbf{y}_i$$

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<sup>14</sup> Agency for Healthcare Research and Quality. *CAHPS Health Plan Survey and Reporting Kit 2008*. Rockville, MD: US Department of Health and Human Services, July 2008.

In this equation,  $\mu_i = (\mu_{i1}, \mu_{i2}, \dots, \mu_{ip})'$  was the vector of intercepts,  $\mathbf{y}_i$  was the vector of responses to survey item  $i$ , and  $\mathbf{X}$  was the covariate matrix represented by the equation below:

$$\mathbf{X} = (\mathbf{X}_a \quad u_1 \quad u_2 \quad \dots \quad u_p)$$

In this equation, the vectors of values for each of the adjuster covariates were represented by the columns of  $\mathbf{X}_a$ , and  $u_1 \quad u_2 \quad \dots \quad u_p$  was a vector of indicators of membership in MCP  $p$ ,  $p = 1, 2, \dots, P$ , with values equal to one for respondents in MCP  $p$  and values of zero for respondents not in MCP  $p$ .

The estimated intercepts were then shifted by a constant value in order to cause their means to equal the mean of the unadjusted MCP means,  $\bar{y}_{ip}$ . This facilitated comparability between the adjusted and unadjusted MCP means. The adjusted MCP means,  $\hat{a}_{ip}$ , were computed using the equation below:

$$\hat{a}_{ip} = \hat{\mu}_{ip} + (1/P) \sum_p \bar{y}_{ip} - (1/P) \sum_p \hat{\mu}_{ip}$$

For items that were not a composite of several items, the adjusted MCP means were reported. For composite items, the adjusted MCP means for the applicable individual items were combined using the weighted mean below:

$$\hat{a}_p = \sum_i w_i \hat{a}_{ip}$$

### ***Variance Estimation***

In addition to calculating the mean for each MCP, the variance was calculated as well. These variances were conditioned on the adjuster variables' coefficients. The process described below was used for single-item measures as well as composite measures.

First, residuals for every survey item  $i$  were calculated from the regression model:

$$z_{ipj} = y_{ipj} - \beta_i x_{pj}$$

In this model,  $y_{ipj}$  was the response to item  $i$  from respondent  $j$ , who was a member of MCP  $p$ , and  $\beta_i$  was the regression coefficient vector for item  $i$ .

The adjusted MCP  $p$  mean,  $\mu_{ip}$ , was the mean of  $z_{ipj}$ . This was given by the following equation:

$$\mu_{ip} = (\sum_j z_{ipj}) / (\sum_j r_{ipj})$$

In this equation,  $r_{ipj}$  was the number of non-missing responses to item  $i$ , which was not a composite measure. For a composite measure, the adjusted MCP  $p$  mean,  $\mu_p$ , was given by:

$$\mu_p = \sum_i w_i (\sum_j z_{ipj}) / (\sum_j r_{ipj})$$

Derivatives were then taken with respect to each of the above sums,  $\sum_j z_{ipj}$  and  $\sum_j r_{ipj}$ , which resulted in the following approximation:

$$\mu_p \approx \sum_j (1/n_{ip}) \sum_i w_i (z_{ipj} - r_{ipj} m_{ip}) = \sum_j d_{pj}$$

In this equation,  $n_{ip} = \sum_j r_{ipj}$  was the number of responses to item  $i$  from members of MCP  $p$ , and  $m_{ip}$  was the mean of  $z_{ipj}$  for item  $i$  for MCP  $p$ .

Finally, the formula to calculate the variance of an estimated sum was used:

$$\hat{V}_p = \text{Var}(\hat{\mu}_p) = (n_p / (n_p - 1)) \sum_j d_{pj}^2$$

In this formula,  $n_p$  was the number of respondents in MCP  $p$ . This was the variance estimation for a composite score for MCP  $p$ .

### **Comparative Hypothesis Tests**

Two types of hypothesis tests were applied to the CAHPS Survey comparative results in the Ohio Comparisons section. First, a global  $F$  test was calculated, which determined whether the difference between MCP means was significant.

The weighted mean was:

$$\hat{\mu} = \left( \sum_p \hat{\mu}_p / \hat{V}_p \right) / \left( \sum_p 1 / \hat{V}_p \right)$$

The  $F$  statistic was determined using the formula below:

$$F = (1/(P - 1)) \sum_p (\hat{\mu}_p - \hat{\mu})^2 / \hat{V}_p$$

The  $F$  statistic, as calculated above, had an  $F$  distribution with  $(P - 1, q)$  degrees of freedom, where  $q$  was equal to  $n/P$  (i.e., the average number of respondents in an MCP). Due to these qualities, this  $F$  test produced  $p$  values that were slightly larger than they should have been; therefore, finding significant differences between MCPs was less likely. For Ohio's ABD Medicaid Managed Care Program, an alpha-level of 0.05 was used. If the  $F$  test demonstrated MCP-level differences (i.e.,  $p < 0.05$ ), then a  $t$  test was performed for each MCP.

The  $t$  test determined whether each MCP's mean was significantly different from the overall means of the other participating MCPs in the state. The equation for the differences was as follows:

$$\Delta_p = \hat{\mu}_p - (1/P) \sum_{p'} \hat{\mu}_{p'} = ((P - 1)/P) \hat{\mu}_p - \sum_{p'}^* (1/P) \hat{\mu}_{p'}$$

In this equation,  $\sum^*$  was the sum of all MCPs except MCP  $p$ .

The variance of  $\Delta_p$  was:

$$\hat{V}(\Delta_p) = [(P-1)/P]^2 \hat{V}_p + 1/P^2 \sum_{p'} \hat{V}_p$$

The  $t$  statistic was  $\Delta_p / \hat{V}(\Delta_p)^{1/2}$  and had a  $t$  distribution with  $(n_p - 1)$  degrees of freedom. This statistic also produced  $p$  values that were slightly larger than they should have been; therefore, finding significant differences between an MCP  $p$  and the combined results of all MCPs was less likely.

### ***Trending Hypothesis Test***

One type of hypothesis test was applied to the CAHPS Survey trending results in the Ohio Comparisons section. A  $t$  test was performed to determine whether the MCP or program average mean in 2012 was significantly different from the MCP or program average mean in 2011. The equation for the differences was as follows:

$$\Delta_p = \hat{\mu}_p - \hat{\mu}_{p'}$$

In this equation,  $\hat{\mu}_p$  was the MCP or program average in 2012 and  $\hat{\mu}_{p'}$  was the MCP or program average in 2011.

The variance of  $\Delta_p$  was:

$$\hat{V}(\Delta_p) = [(P-1)/P]^2 \hat{V}_p + 1/P^2 \sum_{p'} \hat{V}_p$$

The  $t$  statistic was  $\Delta_p / \hat{V}(\Delta_p)^{1/2}$  and had a  $t$  distribution with  $(n_p - 1)$  degrees of freedom. This statistic also produced  $p$  values that were slightly larger than they should have been; therefore, finding significant differences between results in 2012 and results in 2011 was less likely.

### ***Assignment of Arrows***

Arrows were assigned to each MCP's 2012 case-mix-adjusted overall means and case-mix-adjusted response category proportions to indicate whether there were statistically significant differences between 2012 MCP-level mean scores and response category proportions and the 2012 program average mean scores and response category proportions. The difference in MCP performance from the program average was considered significant if the two-sided  $p$  value of the  $t$  test was less than 0.05. MCP-level scores and response category proportions that were statistically higher than the program average were noted with upward ( $\uparrow$ ) arrows. MCP-level scores and response category proportions that were statistically lower than the program were noted with downward ( $\downarrow$ ) arrows. MCP-level scores and response category proportions that were not statistically different from the program average were not noted with arrows.

### ***Assignment of Triangles***

Directional triangles were assigned to each MCP's case-mix-adjusted overall means and case-mix-adjusted response category proportions to indicate whether there were statistically significant differences between MCP-level mean scores in 2012 and MCP-level mean scores in 2011. Directional triangles were also assigned to the program's case-mix-adjusted and weighted overall means and case-mix-adjusted and weighted response category proportions to indicate whether there were statistically significant differences between program-level mean scores in 2012 and program-level mean scores in 2011. The difference in performance from 2011 to 2012 was considered significant if the two-sided  $p$  value of the  $t$  test was less than 0.05. Scores that were statistically higher in 2012 than in 2011 were noted with upward (▲) triangles. Scores that were statistically lower in 2012 than in 2011 were noted with downward (▼) triangles. Scores in 2012 that were not statistically different from scores in 2011 were not noted with triangles.

# Reader's Guide

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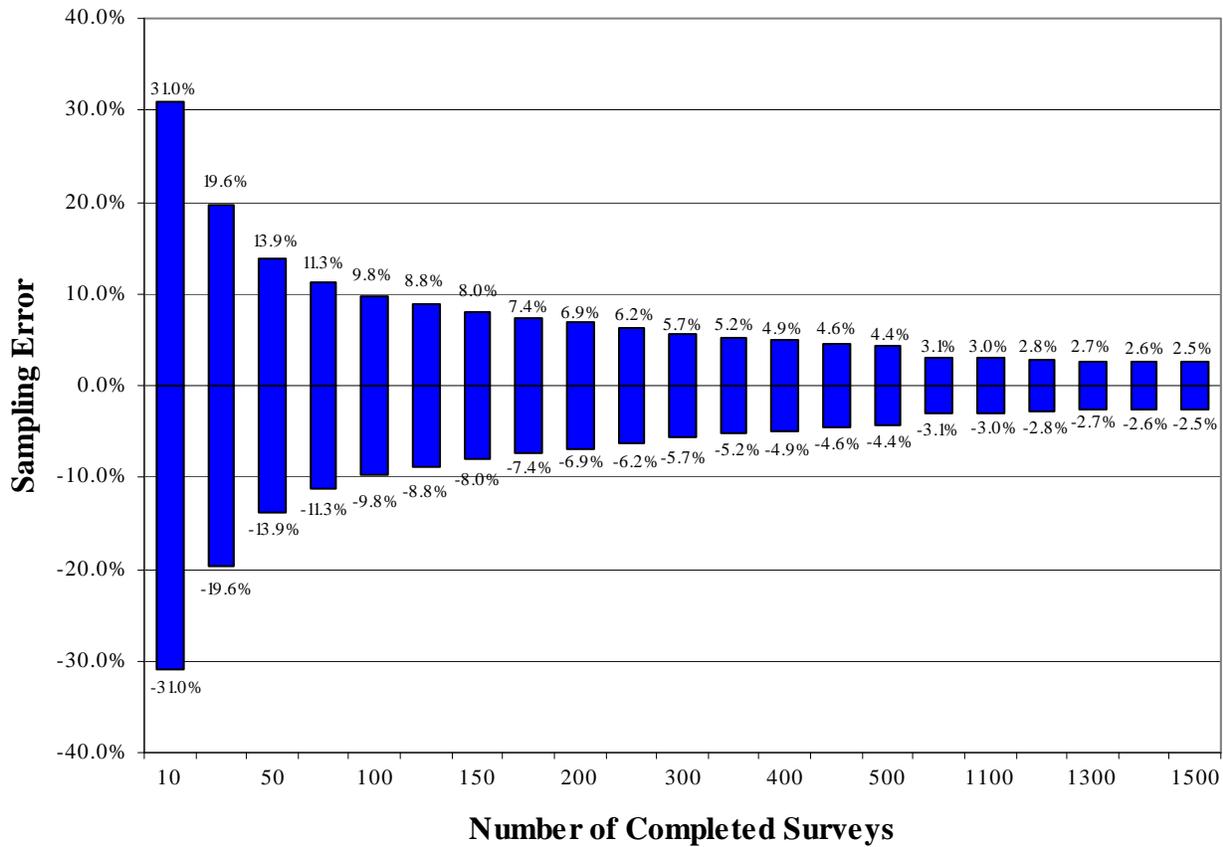
## UNDERSTANDING SAMPLING ERROR

The interpretation of CAHPS results requires an understanding of sampling error. Since it is generally not feasible to survey an MCP's entire population, surveys include only a sample from the population and use statistical techniques to maximize the probability that the sample results apply to the entire population.

For results to be generalizable to the entire population, the sample selection process must give each person in the population an equal chance of being selected for inclusion in the study. In the CAHPS Surveys, this was accomplished by drawing a sample that randomly selects members from the entire MCP for inclusion. This ensured that no single group of members in the sample was over-represented relative to the entire population. For example, if there were a larger number of members surveyed between 45 to 54 years of age, their views would have a disproportionate influence on the results compared with other age groups.

Since every member in the MCP's total population was not surveyed, the actual percentage of satisfied members cannot be determined. Statistical techniques were used to ensure that the unknown actual percentage of satisfied members lies within a given interval, called the confidence interval, 95 percent of the time. The 95 percent confidence interval has a characteristic sampling error (sometimes called "margin of error"). For example, if the sampling error of a survey is  $\pm 10$  percent with a confidence interval of 95 percent, this indicates that if 100 samples were selected from the population of the same MCP, the results of these samples would be within plus or minus 10 percentage points of the results from a single sample in 95 of the 100 samples. The size of the sampling error shown in Figure C-1, on page C-2, was based on the number of completed surveys. Figure C-1 indicates that if 400 MCP members completed a survey, the margin of error would be  $\pm 4.9$  percent. Note that the calculations used in the graph assume that the size of the eligible population was greater than 2,000, as is the case with most Medicaid MCPs. As the number of members completing a survey decreases, the sampling error increases. Lower response rates may bias results because the proportion of members responding to a survey may not necessarily reflect the randomness of the entire sample.

**Figure C-1**  
**Sampling Error and the Number of Completed Surveys**



As Figure C-1 demonstrates, sampling error declines as the number of completed surveys increases.<sup>1</sup> Consequently, when the number of completed surveys is very large and sampling error is very small, almost any difference is statistically significant; however, this does not indicate that such differences are important. Likewise, even if the difference between two measured rates is not statistically significant, it may be important from an MCP's perspective. The context in which the MCP data are being reviewed will influence the interpretation of results.

<sup>1</sup> Fink, A. *How to Sample in Surveys*. Thousand Oaks, CA: Sage Publications, Inc.; 1995.

## REPORT INTERPRETATION

This section of the report offers an approach to the interpretation of an MCP's results. The CAHPS Medicaid Health Plan Survey instrument was administered to members chosen at random from the total enrollment of each participating MCP as permitted by the HEDIS/CAHPS methodology. A total of 7,020 surveys were mailed out for the four participating MCPs. These numbers took into account the loss of some potential respondents due to errors in enrollment status, death, etc. The goal was to obtain as high a response rate as possible. As discussed in the previous section, the fewer the number of responses, the wider the sampling error. Table C-1 depicts the sampling errors for various numbers of responses.<sup>2</sup>

<b>Table C-1</b>								
<b>Sampling Error and the Number of Survey Responses</b>								
<b>Number of Responses</b>	100	150	200	250	300	350	400	500
<b>Approximate Sampling Error (%)</b>	± 9.8	± 8.0	± 6.9	± 6.2	± 5.7	± 5.2	± 4.9	± 4.4

It may be helpful to review how sampling error can impact the interpretation of MCP results. For example, assume that 150 state Medicaid program respondents were 80 percent satisfied with their personal doctor. The sampling error associated with this number is plus or minus 8 percent. Therefore, the true satisfaction rate ranges between 72 percent and 88 percent. If 100 members of an MCP completed the survey and 85 percent of those completing the survey reported being satisfied with their personal doctor, it is tempting to view this difference of 5 percentage points between the two rates as important. However, the true satisfaction rate of the MCP's respondents ranges between 75 percent and 95 percent, thereby overlapping the state Medicaid program average when sampling error is included. Whenever two measures fall within each other's sampling error, the difference may not be statistically significant. At the same time, lack of statistical significance is not the same as lack of importance. The significance of this 5 percentage-point difference is open to interpretation at both the individual MCP level and the state level.

After potential sampling error has been taken into consideration, it is recommended that MCP-level results calculated using NCQA methodology be compared to the 2012 program average (using NCQA methodology), NCQA's 2012 CAHPS 4.0H benchmarks, NCQA's 2012 national adult Medicaid data, and the 2012 NCQA national Medicaid averages.

<sup>2</sup> Fink, A. *How to Sample in Surveys*. Thousand Oaks, CA: Sage Publications, Inc.; 1995.

## **LIMITATIONS AND CAUTIONS**

The findings presented in the 2012 Ohio ABD Medicaid Managed Care Program CAHPS Reports were subject to some limitations in the survey design, analysis, and interpretation. These limitations should be considered carefully when interpreting or generalizing the findings presented. These limitations are discussed below.

### **Case-Mix Adjustment**

While data have been adjusted for differences in self-reported health status, educational level, and age, it was not possible to adjust for differences in respondent characteristics that were not measured. These characteristics included income, employment, or any other characteristics that may not have been under the MCP's control.

In addition, a factor that should be considered when making comparisons to NCQA data is that NCQA's national averages do not adjust for health status, socioeconomic, demographic, and/or geographic differences among participating states or health plans.

### **Non-Response Bias**

The experiences of the survey respondents may be different than that of non-respondents with respect to their health care services, and may vary by MCP. The Respondent/Non-Respondent Analysis section within Ohio's ABD Medicaid Managed Care Program CAHPS Full Report highlights differences between the demographic characteristics of the respondent and non-respondent populations. The identified potential for non-response bias should be considered when interpreting the results.

### **Causal Inferences**

Although Ohio's ABD Medicaid Managed Care Program CAHPS Full Report and Executive Summary Report examine whether members of various MCPs report differences in satisfaction with various aspects of their health care experiences, these differences may not be attributed completely to the MCP. The analyses described in these Ohio reports identify whether members in different MCPs give different ratings of satisfaction with their MCPs. The surveys by themselves do not reveal why the differences exist.

# Survey Instrument

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The survey instrument selected for Ohio's ABD Medicaid Managed Care Program Member Satisfaction Survey in 2012 was the CAHPS 4.0H Adult Medicaid Health Plan Survey. This section provides a copy of the survey instrument.

All information that would let someone identify you or your family will be kept private. DataStat will not share your personal information with anyone without your OK. You may choose to answer this survey or not. If you choose not to, this will not affect the benefits you get.

You may notice a barcode number on the front of this survey. This number is ONLY used to let us know if you returned your survey so we don't have to send you reminders.

If you want to know more about this study, please call 1-888-248-3344.

### SURVEY INSTRUCTIONS

- ▶ Please be sure to fill the response circle completely. Use only black or blue ink or dark pencil to complete the survey.

Correct  
Mark 

Incorrect  
Marks   

- ▶ You are sometimes told to skip over some questions in the survey. When this happens you will see an arrow with a note that tells you what question to answer next, like this:

- Yes → *Go to Question 1*
- No

↓ START HERE ↓

1. Our records show that you are now in [HEALTH PLAN NAME/STATE MEDICAID PROGRAM NAME]. Is that right?

- Yes → *Go to Question 3*
- No

2. What is the name of your health plan? (Please print)

\_\_\_\_\_





## GETTING HEALTH CARE FROM SPECIALISTS

When you answer the next questions, do not include dental visits or care you got when you stayed overnight in a hospital.

22. Specialists are doctors like surgeons, heart doctors, allergy doctors, skin doctors, and other doctors who specialize in one area of health care.

In the last 6 months, did you try to make any appointments to see a specialist?

- Yes  
 No → *Go to Question 26*

23. In the last 6 months, how often was it easy to get appointments with specialists?

- Never  
 Sometimes  
 Usually  
 Always

24. How many specialists have you seen in the last 6 months?

- None → *Go to Question 26*  
 1 specialist  
 2  
 3  
 4  
 5 or more specialists

25. We want to know your rating of the specialist you saw most often in the last 6 months. Using any number from 0 to 10, where 0 is the worst specialist possible and 10 is the best specialist possible, what number would you use to rate that specialist?

- 0 1 2 3 4 5 6 7 8 9 10  
Worst Specialist Possible Best Specialist Possible

## YOUR HEALTH PLAN

The next questions ask about your experience with your health plan.

26. In the last 6 months, did you try to get any kind of care, tests, or treatment through your health plan?

- Yes  
 No → *Go to Question 28*

27. In the last 6 months, how often was it easy to get the care, tests, or treatment you thought you needed through your health plan?

- Never  
 Sometimes  
 Usually  
 Always

28. In the last 6 months, did you look for any information in written materials or on the Internet about how your health plan works?

- Yes  
 No → *Go to Question 30*

29. In the last 6 months, how often did the written materials or the Internet provide the information you needed about how your health plan works?

- Never  
 Sometimes  
 Usually  
 Always

30. In the last 6 months, did you try to get information or help from your health plan's customer service?

- Yes  
 No → *Go to Question 33*

31. In the last 6 months, how often did your health plan's customer service give you the information or help you needed?

- Never  
 Sometimes  
 Usually  
 Always

32. In the last 6 months, how often did your health plan's customer service staff treat you with courtesy and respect?

- Never
- Sometimes
- Usually
- Always

33. In the last 6 months, did your health plan give you any forms to fill out?

- Yes
- No → *Go to Question 35*

34. In the last 6 months, how often were the forms from your health plan easy to fill out?

- Never
- Sometimes
- Usually
- Always

35. Using any number from 0 to 10, where 0 is the worst health plan possible and 10 is the best health plan possible, what number would you use to rate your health plan?

- 
- 0 1 2 3 4 5 6 7 8 9 10
- Worst Health Plan Possible Best Health Plan Possible

**ABOUT YOU**

36. In general, how would you rate your overall health?

- Excellent
- Very good
- Good
- Fair
- Poor

37. Do you now smoke cigarettes or use tobacco every day, some days, or not at all?

- Every day
- Some days
- Not at all → *Go to Question 41*
- Don't know → *Go to Question 41*

38. In the last 6 months, how often were you advised to quit smoking or using tobacco by a doctor or other health provider in your plan?

- Never
- Sometimes
- Usually
- Always

39. In the last 6 months, how often was medication recommended or discussed by a doctor or health provider to assist you with quitting smoking or using tobacco? Examples of medication are: nicotine gum, patch, nasal spray, inhaler, or prescription medication.

- Never
- Sometimes
- Usually
- Always

40. In the last 6 months, how often did your doctor or health provider discuss or provide methods and strategies other than medication to assist you with quitting smoking or using tobacco? Examples of methods and strategies are: telephone helpline, individual or group counseling, or cessation program.

- Never
- Sometimes
- Usually
- Always

41. Do you take aspirin daily or every other day?

- Yes
- No
- Don't know

42. Do you have a health problem or take medication that makes taking aspirin unsafe for you?

- Yes
- No
- Don't know

43. Has a doctor or health provider ever discussed with you the risks and benefits of aspirin to prevent heart attack or stroke?

- Yes
- No



44. Are you aware that you have any of the following conditions? Check all that apply.
- High cholesterol
  - High blood pressure
  - Parent or sibling with heart attack before the age of 60
45. Has a doctor ever told you that you have any of the following conditions? Check all that apply.
- A heart attack
  - Angina or coronary heart disease
  - A stroke
  - Any kind of diabetes or high blood sugar
46. In the last 6 months, have you seen a doctor or other health provider 3 or more times for the same condition or problem?
- Yes
  - No → *Go to Question 48*
47. Is this a condition or problem that has lasted for at least 3 months? Do not include pregnancy or menopause.
- Yes
  - No
48. Do you now need or take medicine prescribed by a doctor? Do not include birth control.
- Yes
  - No → *Go to Question 50*
49. Is this to treat a condition that has lasted for at least 3 months? Do not include pregnancy or menopause.
- Yes
  - No
50. What is your age?
- 18 to 24
  - 25 to 34
  - 35 to 44
  - 45 to 54
  - 55 to 64
  - 65 to 74
  - 75 or older

51. Are you male or female?
- Male
  - Female
52. What is the highest grade or level of school that you have completed?
- 8th grade or less
  - Some high school, but did not graduate
  - High school graduate or GED
  - Some college or 2-year degree
  - 4-year college graduate
  - More than 4-year college degree
53. Are you of Hispanic or Latino origin or descent?
- Yes, Hispanic or Latino
  - No, not Hispanic or Latino
54. What is your race? Please mark one or more.
- White
  - Black or African-American
  - Asian
  - Native Hawaiian or other Pacific Islander
  - American Indian or Alaska Native
  - Other
- 54a. What language do you mainly speak at home?
- English
  - Spanish
  - Some other language
55. Did someone help you complete this survey?
- Yes → *Go to Question 56*
  - No → *Thank you. Please return the completed survey in the postage-paid envelope.*
56. How did that person help you? Check all that apply.
- Read the questions to me
  - Wrote down the answers I gave
  - Answered the questions for me
  - Translated the questions into my language
  - Helped in some other way



◆ **Thanks again for taking the time to complete this survey! Your answers are greatly appreciated.**

**When you are done, please use the enclosed prepaid envelope to mail the survey to:**

**DataStat, 3975 Research Park Drive, Ann Arbor, MI  
48108**

