

How to Report Results of the CAHPS Clinician & Group Survey

Research conducted on behalf of the Robert Wood Johnson Foundation



Robert Wood Johnson Foundation

Preface

The guidance offered in this document brings together and builds on the work of several organizations. The American Institutes for Research[®] (AIR[®]) took the lead on developing and testing the alternative labels, descriptions, and displays with consumers. AIR also contracted with Lise Rybowski of The Severyn Group to author this document.

The effort to refine the composite labels expands on testing done in 2005 and 2006 by a team of CAHPS researchers associated with Harvard, RAND, and AIR to develop and name the composite measures for this survey. The current incarnation of that team, composed of researchers associated with Yale and RAND, provided input into the guidance and served as reviewers. AIR also received feedback from Shoshanna Sofaer, DrPH, and Judith Hibbard, DrPH, who are nationally recognized experts in consumer reporting with more than 13 years of experience working with CAHPS measures.

The following related materials from the Robert Wood Johnson Foundation are available at: www.forces4quality.org.

- The Case for Measuring Patient Experience
- Strategies for Implementing a Community-Wide CAHPS Clinician & Group Survey
- How to Display Comparative Information That People Can Understand and Use

The work of AIR and its subcontractors was sponsored by the National Program Office of the Robert Wood Johnson Foundation's *Aligning Forces for Quality* (AF4Q) program.

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Introduction

To better assess and compare the quality of health care, many organizations have started to administer the Consumer Assessment of Healthcare Providers and System (CAHPS[®]) Clinician & Group Survey (CG-CAHPS), which asks patients to report on their experiences with doctors and their staff. The survey includes versions for patients receiving primary care, specialty care, and pediatric care. (See the box below for links to more information about this CAHPS survey.)

Endorsed by the National Quality Forum in 2007, this standardized survey is increasingly becoming the instrument of choice for multi-stakeholder collaborative organizations, health systems, health plans, and medical groups to evaluate and improve the care patients receive. In some cases, use of this survey is a requirement. Both the Robert Wood Johnson Foundation's *Aligning Forces for Quality* (AF4Q) program and the Agency for Healthcare Research and Quality's *Chartered Value Exchange* initiative (CVEs) expect communities to measure, report, and improve patient experience with physicians. Several Alliances and CVEs are already reporting this information, and others are close to achieving this objective.

Learn About the CAHPS Clinician & Group Survey

The CAHPS Clinician & Group Survey is part of a larger family of surveys known as CAHPS: Consumer Assessment of Healthcare Providers and Systems. The U.S. Agency for Healthcare Research and Quality sponsors the development of CAHPS surveys and supporting materials, all of which are in the public domain.

Resources

To learn about the CAHPS program:

https://www.cahps.ahrq.gov/content/cahpsOverview/OVER_Intro.asp

To learn about the CAHPS Clinician & Group Survey:

https://www.cahps.ahrq.gov/content/products/CG/PROD_CG_CG40Products.asp

To see the Adult Primary Care Questionnaire:

https://www.cahps.ahrq.gov/CAHPSkit/files/351a-6_AdultPrim_Eng_6pt_V1.pdf

To see all of the survey instruments and implementation guidance in the CAHPS Clinician & Group Survey and Reporting Kit:

<https://www.cahps.ahrq.gov/CAHPSkit/CG/CGChooseQx.asp>

The development of this and other CAHPS surveys is an ongoing process. New and updated surveys are released over time as the survey developers make changes that address findings from research and feedback from users.

What Will You Find in This Guide?

This guide is designed to advance and assist the growing movement to report CAHPS survey results to health care consumers who have consistently expressed an interest in this kind of comparative information.^{1,2,3} By giving consumers access to the CAHPS survey results, the survey sponsors aim to make consumers more informed about local physicians, better equipped to choose physicians and/or groups that meet their needs, and more engaged in decisions about their own care.

Read the guide to learn:

- **What survey-derived information you can report.** The surveys include three composite measures about care for adults, five composite measures about care for children, and a rating of the doctor on a scale of 0 to 10.
- **How to label and describe the measures.** This guide presents the option of a short or long label for each of the CAHPS measures. It also suggests text you can use to describe each measure for those who want more information. All of this text has been tested with consumers to ensure readability and ease of understanding.
- **What scores you can report for these measures.** The two most suitable methods for calculating scores based on the survey results are “top box” scoring and average scoring, both of which have strengths and weaknesses.
- **How to display the scores for consumers.** Users of the CAHPS survey can choose among three recommended strategies for displaying results in a way that facilitates understanding and use by consumers.

What You Need to Know About Measures From the CAHPS Clinician & Group Survey

The measures you report are derived from “core items.” All CAHPS surveys include a core set of items that must be included in the survey. The use of core items is critical to ensuring the collection of standardized data, which is what makes it possible to report comparable measures. Appendix A lists the items included in each of the measures.

Most of the CAHPS measures for reporting are composites. A composite measure is composed of two or more survey items (i.e., questions) that are highly related both conceptually and statistically. Composite measures are useful for the public reporting of survey results

¹ Fung CH, Elliott MN, Hays RD, et al. Patients' Preferences for Technical versus Interpersonal Quality When Selecting a Primary Care Physician. *Health Serv Res.* 2005 Aug.; 40(4): 957–977.

² McGee J, Kanouse DE, Sofaer S, Hargraves JL, Hoy E, Kleimann S. Making Survey Results Easy to Report to Consumers: How Reporting Needs Guided Survey Design in CAHPS. *Medical Care.* 37(3). Supplement: Consumer Assessment of Health Plans Study (CAHPS™) Mar., 1999: MS32-MS40.

³ Sofaer S, Crofton C, Goldstein E, Hoy E, Crabb J. What Do Consumers Want to Know About the Quality of Care in Hospitals? *Health Services Research.* 2005 Dec.; 40(6, pt. 2): 2018-36.

because they efficiently summarize what would otherwise be a large amount of data. This approach makes it easier for users to understand and interpret the data display. The only measure for this survey that is not a composite is a rating measure, which is based on responses to a question that asks for a rating of the doctor on a scale of 0 to 10.

For the Adult Primary Care and Specialty Care Survey, you can report four measures:

- Three composite measures on the timeliness of care, communication with doctors, and interactions with office staff.
- One overall rating of the doctor on a scale of 0 to 10.

To develop these measures, the CAHPS researchers conducted cognitive testing with consumers and statistical testing called psychometric analysis. The psychometric analysis was aimed at ensuring that the measures are valid, which means they assess what they are intended to assess, and reliable, which means they perform consistently and with minimal errors. Cognitive testing confirmed that consumers agreed with the groupings of items into composite measures and could understand and interpret the measures.

The Child Primary Care Survey adds two more measures for reporting. The survey version that asks parents about their children’s experiences with care includes some additional core items that can be combined into two more composite measures, one that focuses on the doctor’s attention to the child’s development and another that focuses on health education from the doctor.

With the exception of the rating measure, **the public reporting of scores for individual survey items is not recommended.** This level of information is useful to health care providers who are trying to identify the areas in which they need to improve. It provides too much detail, however, for consumers who are trying to look for patterns in performance.⁴

You’ll find recommended labels and descriptions for all six of the above measures in the next section of this guide. Some organizations report other measures they have developed themselves by combining core and supplemental items from the CAHPS survey.⁵ This document does not specifically address the use of these non-standard measures, other than to recommend applying the guidance on displaying results consistently across all measures.

⁴ McGee J, Kanouse DE, Sofaer S, Hargraves JL, Hoy E, Kleimann S. Making survey results easy to report to consumers: How reporting needs guided survey design in CAHPS. *Med Care* 1999 Mar; 37(3 Suppl):MS32-40. http://journals.lww.com/lww-medicalcare/Abstract/1999/03001/Making_Survey_Results_Easy_to_Report_to_Consumers_4.aspx.

⁵ Survey sponsors may customize the surveys by adding items, whether drawn from “supplemental item sets” packaged with the CAHPS surveys or other sources. The supplemental item sets can be downloaded from the CAHPS Clinician & Group Survey and Reporting Kit: <https://www.cahps.ahrq.gov/cahpskit/CG/CGChooseOX.asp>.

Labeling and Describing the CAHPS Measures

This section presents recommended labels and descriptions for the measures derived from the CAHPS Clinician & Group Survey. Both the labels—which build on the original CAHPS composite labels—and the descriptions were tested with consumers in June 2010. Appendix B explains the testing process, lists all of the labels that were tested, and summarizes the findings.

This recent usability testing found that although longer labels helped consumers better understand the measures, shorter labels were also effective in communicating the meaning of each measure. Given the space constraints in a table where measures are listed side by side, shorter labels are often a more practical choice. The table below shows both label options for each measure.

Although the labels are intended to make the measures self-explanatory, some users of your report may want a more detailed explanation. You can display the suggested descriptions when the user rolls the mouse over the label or clicks on a “What is this?” link.

Please note that the descriptions of the measures vary slightly if the survey questions ask about a recent visit rather than care over the last 12 months. Some users of the Clinician & Group Survey have adopted a draft version known as the Visit Survey that asks patients to report **if** certain things happened during a recent visit, rather than **how often** they happened over the last 12 months. This variation in the questions does not affect the label for the composites.

CAHPS Clinician & Group Survey: Measure Labels and Descriptions

Original CAHPS Labels	Recommended Labels		Recommended Description of the Measure
	Long Version	Short Version	
	<i>For a summary score:</i> Patient Survey Results		Patients answered a survey about their experiences at their doctors' offices. <i>(If you display a summary score, add:)</i> The information shown here combines their answers into one score.
Getting Appointments and Health Care When Needed	Getting Timely Appointments, Care, and Information	We were unable to identify an effective shorter label	The survey asked patients how often they got appointments for care as soon as needed and timely answers to questions when they called the office. The survey also asked patients how often they saw the doctor within 15 minutes of their appointment time.
How Well Doctors Communicate	How Well Doctors Communicate With Patients	Doctor–Patient Communication	(12-month version): The survey asked patients how often their doctors explained things clearly, listened carefully, showed respect, provided easy-to-understand instructions, knew their medical history, and spent enough time with the patient. (Visit version): The survey asked patients if their doctors explained things clearly, listened carefully, showed respect, provided easy to understand instructions, knew their medical history, showed respect, and spent enough time with the patient.
Courteous and Helpful Office Staff	Helpful, Courteous, and Respectful Office Staff	Courteous and Helpful Office Staff	(12-month version): The survey asked patients how often office staff were helpful and treated them with courtesy and respect. (Visit version): The survey asked patients if office staff were helpful and treated them with courtesy and respect.
Doctor's Attention to Your Child's Growth and Development	Doctor's Attention to Your Child's Growth and Development	Child's Growth and Development	The survey asked parents if the doctor talked about their child's growth, behaviors, moods and emotions, and ability to learn and get along with others.
Doctor's Advice on Keeping Your Child Safe and Healthy	Doctor's Advice on Keeping Your Child Safe and Healthy	Child's Health and Safety	The survey asked parents if the doctor talked about keeping their child from getting injured, the food the child eats, physical activity, and household problems. The survey also asked parents if the doctor gave printed handouts or booklets on keeping their child from getting injured.
Overall Rating of the Doctor	Patients' Rating of the Doctor	Rating of the Doctor	The survey asked patients to rate their doctors on a scale of 0 to 10, with 0 being the worst and 10 being the best.

Choosing the Scores to Report

This section explains two approaches to creating scores for CAHPS measures and discusses how those scoring strategies relate to the recommended display strategies in the next section.

Preparing to Report Survey Scores: Analysis of Survey Data

After you or your survey vendor collects the responses to the patient experience survey, the next step is to analyze the data. To conduct this analysis, you can use a free set of programs known as the CAHPS macro; the CAHPS macro and instructions for using the programs are available in the CAHPS Clinician & Group Survey and Reporting Kit: <https://www.cahps.ahrq.gov/cahpskit/CG/CGChooseQX.asp>.

The programs will generate a distribution of survey results for each of the measures. That is, for each physician group or individual physician, you can see the percentage of patients who fall into each of the response categories for a given measure.

For illustrative purposes, consider the following distribution of results for a measure that uses the six-point frequency scale:

Example: Distribution of Responses for a Single Composite Measure						
Doctor's Office	Response Categories for the Six-Point Frequency Scale					
	Never	Almost Never	Sometimes	Usually	Almost Always	Always
Applewise Health Center	7.03%	1.60%	4.00%	7.90%	33.16%	46.30%
Brackburg Clinic	3.93%	1.79%	4.18%	10.22%	29.68%	50.20%
Classor Medical Associates	3.40%	0.00%	1.90%	8.76%	30.76%	55.17%
Duraho Associates	2.33%	5.18%	4.99%	4.48%	18.63%	64.40%
Ezrom Medical Center	2.05%	0.89%	6.25%	11.52%	24.97%	54.32%

This level of detail would be difficult for most consumers to understand, interpret, or use. Although there are a few ways to report a single score for the measure, two methods are recommended:

- **Average score:** The mean across all of the response categories.
- **“Top box” score:** The percentage of responses in the most positive response categories.

The rest of this section discusses what you would report using each of these two methods and what you need to consider when deciding which method to use.

Reporting the Average Score for an Individual Provider

The average score is a calculation of the mean across all of the response categories. To apply this method, you treat the response options as points on a linear or interval scale where the intervals between the options are equal (for example, the difference between “Never” and “Sometimes” is the same as the difference between “Sometimes” and “Usually”).

Response Categories Included in Calculations of the Average Score

Version of the CAHPS Clinician & Group Survey	Response Categories		
	Questions that ask about frequency:	Questions that ask whether something happened:	Question that asks for a rating of the doctor:
12-month version: Four-point frequency scale	Never Sometimes Usually Always	No Yes	0 (Worst) – 10 (Best)
12-month version: Six-point frequency scale	Never Almost never Sometimes Usually Almost always Always	No Yes	0 (Worst) – 10 (Best)
Visit version	Never Sometimes Usually Always	No Yes, somewhat Yes, definitely	0 (Worst) – 10 (Best)

In the distribution of responses in the table on the previous page, the average score for each provider on that measure would be based on the scores reported for each of the six response categories. The analysis programs in the CAHPS macro calculate these averages by converting the response options to a numerical scale (for example, the expanded “Never to Always” scale becomes “1 to 6”). Converting the scores for different measures to a 0 to 100 scale makes them consistent, easier to report, and easier for consumers to understand.

**Example:
Average Scores**

Doctor's Office	Average Scores	
	Scale of 1 to 6	Converted to a Scale of 0 to 100 (for display purposes)
Applewise Health Center	4.84	81
Brackburg Clinic	5.08	85
Classor Medical Associates	5.46	91
Duraho Associates	5.25	88
Ezrom Medical Center	5.17	86

Advantages of Average Scoring

- The average score reflects the full range of patients' experiences with care. Two doctors with the same top box score but different scores in the other response categories may look very different when the average scores are calculated.
- Because it uses all of the information and does not blur the distinctions between any of the response categories, the average score provides a more precise measure of performance.
- Because it is a more precise measure, consumers are getting a more accurate assessment of whether the performance of a given provider is truly above or below average.

Disadvantages of Average Scoring

- Compared to top box scores for a set of providers, the average scores for the same providers are often more compressed into a small part of the 0 to 100 range. This compressed range for average scores may lead consumers to believe that scores do not vary much across providers.
- Users are less or not at all aware of the actual answers to the survey questions, which differ from question to question.

Reporting the Top Box Score for an Individual Provider

The “top box” score refers to the percentage of patients whose responses indicated excellent performance for a given measure. This approach is a kind of categorical scoring because the emphasis is on the score for a specific category of responses.⁶

Top Box Response Categories

Response Categories That Indicate a High Level of Performance		
Questions that ask about frequency:	Questions that ask whether something happened:	Question that asks for a rating of the doctor:
Always (four-point frequency scale) Always + Almost always (six-point frequency scale)	Yes Yes, definitely <i>(Response category in the Visit Survey only)</i>	9 and 10 combined ⁷

Using the distribution of responses in the table on page 5, the top box scores could be the figures in the “Always” column or a combination of the scores for “Almost always” and “Always.” Because these figures could be used for public reporting, we have rounded them to the nearest integer.

Example: “Top Box” Scores		
Doctor’s Office	Top Box Scores	
	Always	Always + Almost always
Applewise Health Center	46%	79%
Brackburg Clinic	50%	80%
Classor Medical Associates	55%	86%
Duraho Associates	64%	83%
Ezrom Medical Center	54%	79%

⁶ Another kind of categorical scoring is “bottom box” scoring, which focuses on the scores at the low end of the scale. This approach also has value to consumers, in part because consumers often respond more to the fear of providers with poor performance than to the benefits of providers with strong performance. Reporting the bottom box score would make the CAHPS score more like a safety score, in that you would be helping people anticipate where things could go wrong. To address this interest in the lower end of the scale, the Centers for Medicare & Medicaid Services (CMS) offers users the option of viewing the distribution of scores for the CAHPS Hospital Survey.

⁷ For the 0 to 10 rating of the doctor, the CAHPS development team recommends combining the percentage of respondents who rated their doctors “9” or “10.” Research found that this combination resulted in better comparability of data across respondents who vary by race or ethnicity, socioeconomic status, and other sociodemographic factors.

Advantages of Top Box Scoring

- The top box score is easier to explain and for consumers to understand.
 - The score is simply the percentage of patients who gave a particular response to a set of questions.
 - The score involves just one number rather than a statistical calculation based on multiple numbers.
- The top box score may make it easier for consumers to identify the providers with whom patients most often have the best experience.
- Top box scoring is a popular choice because it is similar to the reporting of process measures, which also have a numerator and denominator.

Disadvantages of Top Box Scoring

- Top box scoring produces a less precise measure of performance because it does not use all of the information in the scale and it treats the other options (for example, Never, Sometimes, and Usually) as if they are the same—that is, as if “Usually” is no better or worse than “Never.”
- Because top box scoring is a less precise method, it is necessary to have a larger sample size for the survey than one would need to calculate an average score.
- Because the top box score focuses on just one end of the scale, the user of the information has no idea what is happening in the rest of the distribution. Two providers with the same top box score could have very different scores in the remaining categories.

How to Choose

No scoring method is right for everyone. To decide which score is most suitable for your report, consider the following questions:

- **Will you display how providers perform relative to each other?** The next section discusses three recommended display options, two of which involve using symbols to show consumers how physicians or groups perform relative to one another. For these displays, average scores offer a more accurate measure of the full range of performance whether you are reporting composite measures or the overall rating.
- **Will you display numerical scores for each provider?** The third recommended display option shows consumers the actual score for each physician or group, often in the form of a bar chart. For these displays, you could report either kind of score—but the top box scores are easier to explain and more compatible with clinical measures presented in the same format.
- **Do your stakeholders in the reporting project have strong preferences?** Because the CAHPS Clinician & Group Survey is still new to most communities, the preferences of stakeholders—particularly physicians—often determine the scoring method. Their

preferences may change over time as they become more familiar with the surveys and more comfortable with how the information is presented to and received by consumers.

Choosing a Display Strategy

This section discusses the optional use of a summary score and recommends a few ways to display the results of the CAHPS Clinician & Group Survey:

- Table with word icons
- Table with graphic symbols
- Bar charts

In offering these alternative approaches, the authors recognize that not everyone is ready or willing to highlight differences in physician- or practice-level performance. That said, when selecting a display strategy, we encourage you to focus on the message you want consumers in your audience to take away from the information and how you want them to use the information. If your display does not support those messages or uses, you may need to consider the alternatives.

Also, please note that while this guidance is specific to the Clinician & Group Survey, it can be applied to other CAHPS surveys of patient experience as well.

Providing a Summary Score

A summary score is a useful and effective strategy for making multiple quality measures easier for consumers to digest. While this CAHPS survey may produce only a handful of measures, providing scores for all of the doctors' offices creates a display with a great deal of information.

A summary score for the CAHPS Clinician & Group Survey would combine all of the measures being reported: the three composite measures (five, if reporting on children's experiences with care) and the overall rating of the doctor.⁸ After reviewing this score, users should have the option of seeing the scores for the individual measures.

For more detailed information on displaying comparative performance data see:

How to Display Comparative Information That People Can Understand and Use

Available from the Robert Wood Johnson Foundation at: www.forces4quality.org.

⁸ For guidance on calculating a summary score, contact the CAHPS User Network at cahps1@ahrq.gov. Also see: Lehrman W. et al. Characteristics of Hospitals Demonstrating Superior Performance in Patient Experience and Clinical Process Measures of Care. *Medical Care Research and Review*, 2010 Feb. 67 (1); 38-55.

Why report a summary score?






- Providing a summary score gives users a broad assessment of patients’ experiences.
- Consumers can use a summary score to determine whether they want to see more information.
- The use of a summary score for patient experience complements the use of summary scores for other important domains of quality, such as safety and effectiveness. Providing summaries of performance in a quality framework composed of these three categories can help users better understand the meaning of health care quality and individual measures.⁹

Below is an example of summary score display intended to help users decide which offices to compare to each other. In this example, word icons represent the relative performance of the offices. You could also use sets of stars or bar charts for this purpose, recognizing that each of these approaches demands more cognitive effort on the part of users.

**Example:
Summary Score Display**

Select Doctors' Offices to Compare

Current Zip Code: 12345 Compare

Select (Up to 5)	Doctors' Offices	Distance	Patient Survey Results ▼ <small>What is this?</small>
<input type="checkbox"/>	Dr. R. Garrett	14.3 miles	 better
<input type="checkbox"/>	Dr. B. Karas	10.1 miles	 better
<input type="checkbox"/>	Dr. M. Fleming	0.2 miles	 better
<input type="checkbox"/>	Dr. E. Meller	4.6 miles	average
<input type="checkbox"/>	Dr. J. Addison	17.9 miles	average
<input type="checkbox"/>	Dr. A. Robinson	0.2 miles	 below
<input type="checkbox"/>	Dr. F. Sullivan	9.4 miles	 below
<input type="checkbox"/>	Dr. R. Parks	0.1 miles	Too Few Patients

Displaying CAHPS Measures Side by Side

The measures from a CAHPS survey should be displayed side by side rather than on separate pages. This approach enables users of your report to assess and compare the performance of

⁹ Hibbard JH, Greene J, Daniel D. What Is Quality Anyway? Performance Reports That Clearly Communicate to Consumers the Meaning of Quality of Care. *Med Care Res Rev* 2010 67: 275-293.

providers across the measures, all of which have been found to be important to consumers, which still allowing them to focus on a single measure that may particularly interest them.

When each measure is presented on its own page, users have to retain information about each provider’s performance as they move from page to page; this cognitive challenge makes it very difficult for users to get an overall picture of how the providers perform on these measures.

Table With Word Icons

Word icons are symbols that use words to communicate the performance of providers relative to an average¹⁰ or to a higher benchmark, such as the score for the top 10 percent of performers. They are designed to draw attention to the providers performing above and below the benchmark.

In the sample display below, the icons for the non-average performers stand out, while the “average” fades into the background. This kind of display generally does not require the user to consult a legend to understand the information, although it is helpful to have a legend for those who desire more specific information.

Because the icons are self-explanatory and visually distinct, this display makes it easy for users to determine which providers do well or poorly across two or more measures.

The example below shows word icons in a display of the six measures for the Child’s Survey.

**Example:
Word Icon Display**

The screenshot shows a table titled "Patient Survey Results" with a "Current Zip Code: 12345" and a "Back to List" button. The table has seven columns representing different survey measures and five rows representing different doctors. Each cell in the table contains a word icon: "better" (yellow circle with a downward arrow) or "below" (blue downward arrow). "average" is shown in a lighter, less prominent font.

Doctors' Offices	How Well Doctors Communicate with Patients What is this?	Helpful, Courteous, and Respectful Office Staff What is this?	Getting Timely Appointments, Care, and Information What is this?	Doctor Attention to Your Child's Growth and Development What is this?	Doctor's Advice on Keeping Your Child Safe and Healthy What is this?	Patients' Rating of the Doctor What is this?
Dr. R. Garrett	better	average	average	better	average	better
Dr. B. Karas	better	better	average	below	better	average
Dr. E. Meller	average	better	below	below	average	average
Dr. J. Addison	average	below	below	better	better	better
Dr. F. Sullivan	below	below	better	below	below	below

¹⁰ The CAHPS macro is designed to generate information that indicates whether a provider’s score for a given measure is statistically above or below the average.

Table With Graphic Symbols

The use of word icons to present relative performance across providers is strongly recommended. However, if they are not acceptable to providers or other stakeholders in your community, symbols are another option.

Many people are accustomed to seeing symbols—mostly, but not only stars—that depict the relative quality of things like movies, books, hotels, and restaurants. This familiarity is both a good thing, because the symbols don't require much of an explanation, and a bad thing, because people are apt to make incorrect assumptions about what the symbols mean.

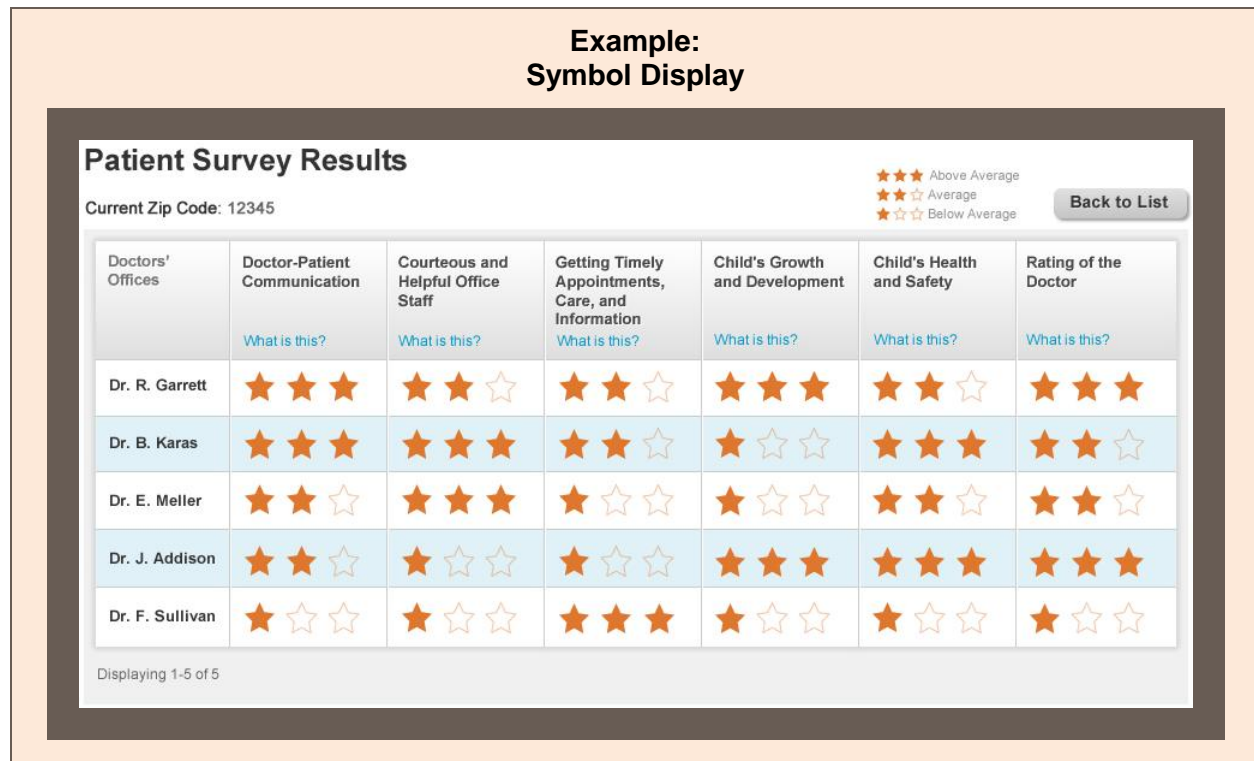
Several different ways to present symbols include repeated graphics (for example, one, two, or three stars) or different graphics (for example, empty, half-filled, and filled circles). Either can be used to represent a comparison to the average or an absolute level of performance.

Because it is difficult to select symbols that people interpret and use correctly, be sure to test your proposed symbols with representatives of your audience before finalizing the format of your report. In particular, be wary of shapes and colors that users are likely to misunderstand or misinterpret. The ideal symbol is intuitive, because it requires less effort for users to interpret. But even symbols that seem intuitive require a legend to explain what they mean.

When using repeated graphics, you can make them easier for users to process:

- Align the symbols to the left.
- Include thin outlines of empty symbols to remind the user how many symbols represent the top level of performance.
- Include a legend at the top of the page.

The example below shows star symbols in a display of the six measures for the Child's Survey.



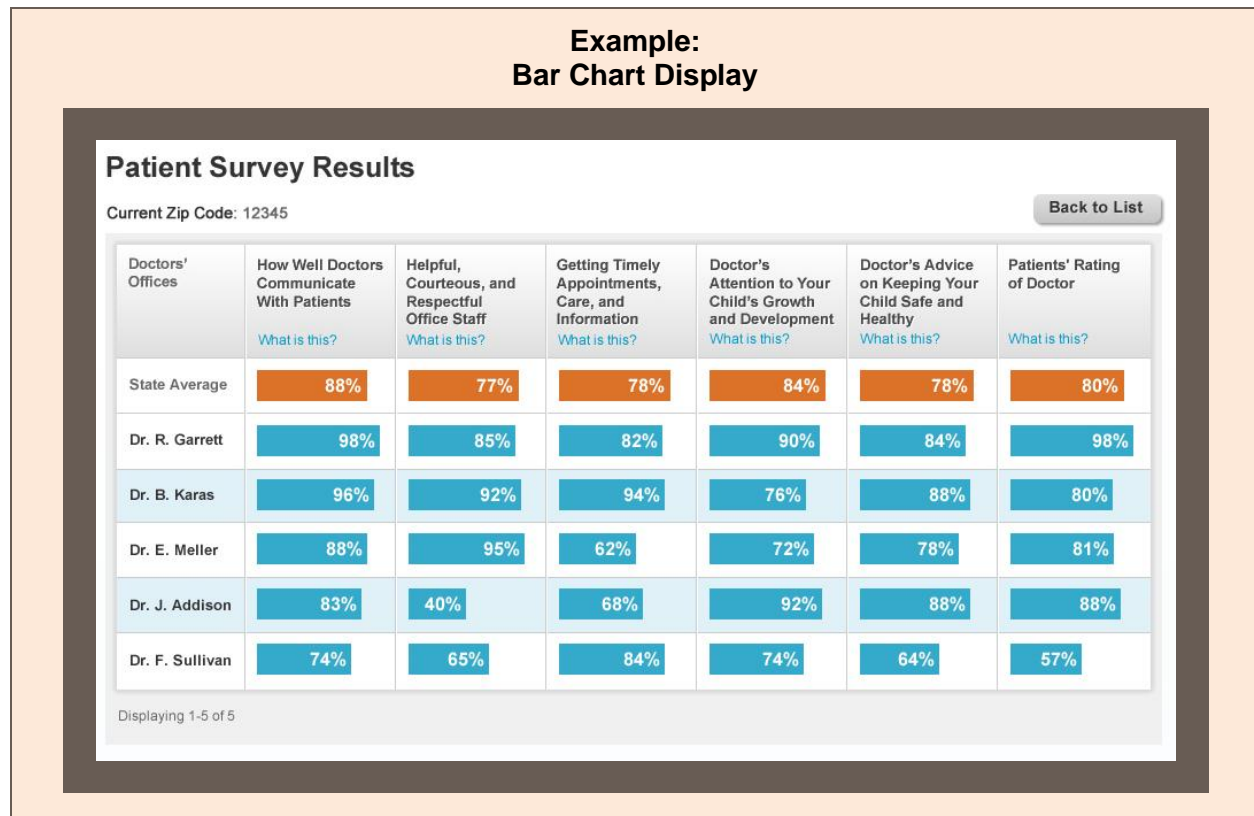
Bar Charts

A third display option is to present numerical scores in the form of a bar chart. This approach is common and easy to implement. When numerical scores are displayed for multiple measures, however, consumers find it hard to process the information because they cannot keep track of so much data in order to identify strong and poor performers across all of the measures.

When you display scores in a bar chart, you can help users process the information:

- Provide a point of comparison (known as a comparator), such as an average score, either at the top of the chart or within the bars.
- Give users the option of viewing the scores in rank order rather than just alphabetically. If you cannot offer multiple ways to sort the providers, list them in order of performance.
- Draw the user's eye to the right by presenting the numerical score either within the right side of the bar or just to the right of the end point.

The example below shows bar charts in a display of the six measures for the Child's Survey.



Two Considerations in Choosing a Display

Can you draw attention to differences in performance? The big difference between the display alternatives is the extent to which they make it easy to see differences in providers' performance. When you highlight substantial differences between providers, users need to do less cognitive work to understand and use the information. They can focus on what matters to them, rather than spending time trying to interpret data and possibly drawing inaccurate conclusions (for example, concluding that one provider is better than another even though the differences are not significant).

Using word icons is the clearest way to indicate differences in scores because the icons make it easy to pick out the high and low performers. If those distinctions are too explicit for your project, the use of symbols is a good alternative that is familiar and less likely to be disconcerting to providers.

A display of bar charts is the most conventional of the three options; it is also the hardest for people to interpret and use when consumers are looking at data for multiple measures. In some cases, however, using these charts to display survey results is a necessary step for building trust among the stakeholders in a public reporting project, including consumers, especially when the idea of measuring and reporting on patient experience with physicians is new to the community.

What other information are you providing? How you display the results of the CAHPS Clinician & Group Survey depends in part on whether you are reporting on patient experience alone or in combination with other measures of quality at the level of medical groups, practice

sites, and/or physicians. If the survey results are your only data, you'll have more leeway to select the approach that best suits this kind of information. If you'll be presenting these measures alongside other quality indicators, you'll have to think about which display strategy allows you to present information consistently across the various measures of quality and safety.

Need Help?

Free technical assistance is available from the CAHPS User Network at cahps1@ahrq.gov or 1–800–492–9261. AF4Q communities can also receive technical assistance by contacting the national program office.

Implementing the CAHPS Clinician & Group Survey

- *CAHPS Clinician & Group Survey and Reporting Kit*: <https://www.cahps.ahrq.gov/cahpskit/CG/CGChooseQX.asp>
- *Good for Health, Good for Business: The Case for Measuring Patient Experience of Care*: http://www.forces4quality.org/sites/default/files/Case%20for%20Patient%20Experience5_0.pdf
- *Strategies for Community Implementation of CAHPS Clinician & Group Survey*: <http://www.forces4quality.org/sites/default/files/CGCAHPS-Update.pdf>

Displaying Comparative Information on Quality

- *TalkingQuality*: www.talkingquality.ahrq.gov. A comprehensive guide to planning and implementing a comparative quality report for health care consumers.
- *How to Display Comparative Information That People Can Understand and Use*. Guidance on strategies for displaying comparative information on quality, based on findings from consumer research and expert input. (To be released August 2010; access via www.forces4quality.org)
- *Successfully Reporting and Communicating Performance Measures: Lessons from Consumers (RWJF)*: <http://forces4quality.org/announcement/new-report-consumer-friendly-performance-measures>. A compilation of focus group research into making online information about physician performance user-friendly.
- *Best Practices in Public Reporting*. Free reports from the Agency for Healthcare Research and Quality.
 - *How to Effectively Present Health Care Performance Data to Consumers*: <http://www.ahrq.gov/qual/pubrptguide1.htm>
 - *Maximizing Consumer Understanding of Public Comparative Quality Reports: Effective Use of Explanatory Information*: <http://www.ahrq.gov/qual/pubrptguide2.htm>
 - *How to Maximize Public Awareness and Use of Comparative Quality Reports Through Effective Promotion and Dissemination Strategies*: <http://www.ahrq.gov/qual/pubrptguide3.htm>

Appendix A: Survey Items Included in Each Measure

Getting Timely Appointments, Care, and Information (5 questions)

- Patient/[Child] got appointment for urgent care as soon as needed [for the child]
- Patient/[Child] got appointment for non-urgent care as soon as needed [for the child]
- Patient/[Respondent] got answer to medical question the same day he/she phoned doctor's office
- Patient/[Respondent] got answer to medical question as soon as he/she needed when phoned doctor's office after hours
- Patient/[Child] saw doctor within 15 minutes of appointment time

How Well Doctors Communicate With Patients (6 questions)

- Doctor explained things in a way that was easy to understand
- Doctor listened carefully to patient/[respondent]
- Doctor gave easy to understand instructions about taking care of health problems or concerns
- Doctor knew important information about patient's/[child's] medical history
- Doctor respected patient's/[respondent's] comments
- Doctor spent enough time with the patient/[child]

Helpful, Courteous, and Respectful Office Staff (2 questions)

- Clerks and receptionists were helpful
- Clerks and receptionists were courteous and respectful

Doctor's Attention to Your Child's Growth and Development (*for the Child Survey only*) (5 questions)

- Respondent and doctor talked about child's learning ability
- Respondent and doctor talked about age-appropriate behaviors
- Respondent and doctor talked about child's physical development
- Respondent and doctor talked about child's moods and emotions
- Respondent and doctor talked about how child gets along with others

Doctor's Advice on Keeping Your Child Safe and Healthy (*for the Child Survey only*) (5 questions)

- Respondent and doctor talked about injury prevention
- Doctor gave written information on injury prevention
- Respondent and doctor talked about child's eating habits
- Respondent and doctor talked about child's physical activity
- Respondent and doctor talked about any problems in the household that might affect child

Patients' Rating of the Doctor (1 question)

- Rating of the doctor on a scale from 0 to 10, where 0 is the worst doctor possible and 10 is the best doctor possible

Appendix B: Findings from Cognitive Testing of Labels

Introduction

This report summarizes findings from cognitive testing of reporting displays of the CAHPS Clinician & Group Survey conducted by the American Institutes for Research[®] (AIR[®]) for the *Aligning Forces for Quality* (AF4Q). Testing was conducted in Washington, DC on June 18, 23, and 30, 2010 with consumers (including parents).

We tested materials using on-screen PDFs of a mock Web site providing quality information and data displays of doctor's quality. The format and content of the testing materials changed slightly between rounds on each of the three days.

Participants were shown the following:

- Homepage
- Doctor's office selection page with summary score and information on distance
- Display of six measures: doctor communication, office staff, access, child's growth and development, child's safety and health, and overall rating
- Displays in bar graph, symbols (stars), and word icons
- Bar graph displays with a comparator bar and a comparator line

The data produced for the displays was fictional data, but based upon the range of scores reported on existing AF4Q Alliance reporting sites.

Participants

AIR worked with a professional market research facility in Fairfax, VA to recruit consumers who had seen a doctor or who had been to the doctor with their child in a non-acute setting in the past year. The team conducted a total of 10 interviews with consumers (including parents). The consumers were diverse, and ranged in age, education, race/ethnicity, and gender. Notably, nearly all of the participants had only high school education and were moderate or frequent Internet users (more than four times per week). A breakdown of participant characteristics is provided below.

Participant characteristics by round

	Round 1 (n=5)	Round 2 (n=2)	Round 3 (n=3)	Total (n=10)
Age Range				
18–29	1	0	0	1
30–39	2	2	2	6
40–49	1	0	0	1
50–59	0	0	1	1
60–69	1	0	0	1
Gender				
Male	1	1	2	4
Female	4	1	1	6
Education				
High School only	4	2	2	8
Technical Certificate	1	0	1	2
Race/Ethnicity				
Caucasian	2	0	1	3
African American	2	1	1	4
Hispanic/Latino	1	1	1	3
Internet use				
2–4 times per week	1	0	0	1
5–6 times per week	0	0	1	1
Every day	2	2	1	5
Multiple times per day	2	0	1	3

Findings and Recommendations

Findings from the testing are presented below and organized by the following topic areas:

- Homepage and summary score page
- Labeling and describing the CAHPS measures

Homepage and summary score page

Understanding the label patient experience

Participants were shown a very basic homepage to provide an introduction to the data they were about to be shown. The homepage imitated a website and included a brief statement about helping patients make informed decisions. At the bottom of the page, there were buttons indicating that users could compare doctors' offices or hospitals on patient experience. After viewing the homepage, participants were asked what patient experience meant to them.

All but one participant understood that it was information from a patient's perspective about how the doctor performed. One participant thought it might just be pictures of a doctor providing care to a patient. A few participants assumed they would find lists of doctors in their area that provided care with information on their background. Several participants believed that clicking on the patient experience button would show descriptive text or commentary from other patients about how a doctor performed. A few participants even thought there might be accompanying star rating as they had seen such information on the Internet before.

After the first two rounds where most participants assumed they would see descriptive commentary, we tested other title options for patient experience including:

- Results of Patient Survey
- Patient Experience Survey Results
- Patient Survey Results

Most of the participants preferred the title "Patient Survey Results" stating that the word experience made the title too complicated.

Understanding the summary score

Next, participants viewed a page with 12 doctors' offices listing the distance and a summary score (see larger example of a summary score display on page 12). Here, participants understood that this information came from patients. Interestingly, about half of the participants were interested in clicking somewhere on the page to get more information or detail about the doctor. This was particularly true of the few participants who started by viewing the word icons.

Reaction to doctor's office with the label "too few patients"

One doctor's office on the summary score page did not have any results, and instead the words "Too few patients" appeared next to that doctor's office. The interpretation of this label was largely neutral or positive. Participants assumed that this doctor had not seen many patients or that patients were not often encouraged to take the survey. Participants speculated that this doctor's office was new to the area or perhaps, the doctor had cut back on hours before retiring and saw fewer patients.

Labeling and describing the CAHPS measures

In each round at least three versions of each label were tested with participants. The original CAHPS label was tested with each of the participants, an interrogative format of each measure was tested in the first round, and attempts at shorter, more concise labels and longer, more descriptive labels were tested in subsequent rounds. To address ordering bias, the order by which the labels were shown to participants was varied.

Doctor communication

The following labels were tested:

- How Well Doctors Communicate (rounds 1–3)
- Doctor Communication (rounds 1–2)
- Did Doctors Communicate Well With Patients? (round 1)
- How Well Doctors Communicate With Patients (rounds 2–3)
- Doctor–Patient Communication (round 3)

In the first round of testing, participants were split between “How Well Doctors Communicate” and “Did Doctors Communicate Well with Patients?” Participants tended to like the statement format, but also liked the use of the word “patient.” In later rounds, participants stated that the use of the word “patient” in the title personalized the measure. Without the word patient, a few participants said that communication could refer to how well they deliver presentations or talk with other doctors.

Participants in the first round struggled slightly with the length of the description of this measure, but found the contents of the measure to be important and valuable to them. In subsequent rounds, the description was modified to change the order of series and no further issues were brought up. After reading the description, all of the participants stated that the label accurately described what was included here.

Office staff

The following labels were tested:

- Courteous and Helpful Office Staff (rounds 1–3)
- Professional Office Staff (rounds 1–2)
- Was the Office Staff Helpful, Courteous, and Respectful? (round 1)
- Helpful, Courteous, and Respectful Office Staff (rounds 2–3)
- Helpful Office Staff (round 3)

Participants easily identified with this measure and stated that it meant whether the office staff was helpful and kind. Although a few participants stated that they liked the word “polite,”

several said that “courteous” was a more formal and professional sounding word and sufficed. In general, participants did not find the shorter labels provided enough information to understand what was included in this measure. Half of the participants reported that seeing all three words—helpful, courteous, and respectful—in the title more closely matched the description. Participants did not discuss any difficulties with the description of this measure.

Access

The following labels were tested:

- Getting Appointments and Health Care When Needed (rounds 1–3)
- Getting Timely Appointments, Care, and Information (round 1)
- Getting Care When Needed (round 1)
- How often did patients get timely appointments, care, and information? (round 1)
- Timely Appointments, Care, and Information (rounds 2–3)
- Getting Timely Appointments, Health Care, and Information (rounds 2–3)
- Timely Appointments (round 3)

Participants equally preferred “Getting Appointments and Health Care When Needed” and “Getting Timely Appointments, Health Care, and Information.” Some participants favorably pointed out the use of the word “timely” in the title. When looking at the titles of this measure, however, participants didn’t necessarily understand that this was both about getting an appointment and being seen in a timely fashion when present for a visit. Participants seemed to gloss over or ignore that this measure included getting answers to questions when looking at the title and the description.

In rounds one and two, participants found the description to be lengthy and stated that they had to re-read the second sentence to better understand the description. In round three, the two sentences were separated by a hard return and the statements were rewritten to be parallel. All of the round three participants reported that the description was clear and easy-to-understand.

Child’s growth and development

The following labels were tested:

- Doctor's Attention to Your Child's Growth and Development (rounds 1–3)
- Growth and Development (round 1)
- Did the doctor talk to you about Your Child’s Growth and Development? (round 1)
- Child’s Growth and Development (rounds 2–3)
- Doctor Talks About Your Child’s Growth and Development (rounds 2–3)

Nearly all of the participants selected the title “Doctor’s Attention to Your Child’s Growth and Development.” In particular, participants liked seeing the word “child” in the title. Further, a few participants liked the word “attention,” stating that it was comforting because it meant the doctor was paying “close attention” to your child.

In round one, participants found the description to be lengthy and stated that they had to re-read the second sentence to better understand the description. In round three, the two sentences were separated by a hard return and the statements were rewritten to be parallel. All of the round three participants reported that the description was clear and easy-to-understand.

Child’s safety and health

The following labels were tested:

- Doctor’s Advice on Keeping Your Child Safe and Healthy (rounds 1–3)
- Preventing Injury and Healthy Eating (rounds 1–2)
- Did the doctor give Advice on Keeping Your Child Safe and Healthy? (round 1)
- Doctor Talks About Preventing Injury and Healthy Eating (rounds 2–3)
- Child’s Health and Safety (round 3)

Most participants selected the title “Doctor’s Advice on Keeping Your Child Safe and Healthy.” One participant stated that the word “advice” was a difficult one, especially for non-native English speakers. A couple of participants reported that their doctors did not discuss all of these issues with them and couldn’t relate to this measure.

In rounds one and two, participants found the description to be lengthy and stated that the last sentence was confusing. In rounds two and three, the description was rewritten to incorporate all of the topics into a single sentence. All of the round two and three participants reported that the description was clear and easy-to-understand.

Overall rating

The following labels were tested:

- Overall Rating of the Doctor (rounds 1–3)
- Overall Rating of Care (round 1)
- How do patients rate the doctor overall? (round 1)
- Overall Rating (rounds 2–3)
- Patients’ Overall Rating of the Doctor (rounds 2–3)

In the first round, participants preferred the title “Overall Rating of the Doctor,” but a couple of participants stated that they liked the question format for this title because it included the word patient. This is similar to sentiments expressed about previous measures. In later rounds, when

the word “patient” was added to the label, participants unanimously selected the label “Patients’ Overall Rating of the Doctor.” Participants struggled with the shorter label “Overall Rating” and a few stated that this label could mean that the rating was provided by someone other than the patient.

Participants did not report any issues with the description of this measure, however, there was some confusion among half of the participants about whether this was an average of all the measures or a separate rating.