FAQs About Displaying Comparative Quality Data to Consumers

This document provides answers to common questions about displaying comparative quality information. Some of these questions were raised during AIR's November 2010 webinar, "Effective Ways to Display Comparative Quality Data to Consumers." To learn more about the issues discussed in this document, please refer to two guides by the American Institutes for Research (AIR):

- How to Display Comparative Information That People Can Understand and Use

- How to Get Consumer Feedback and Input into Websites

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The use of symbols is common in quality reports. While stars are a popular choice, other examples of symbols in quality reports include checkmarks, arrows, and circles that are empty, half full, or full. Symbols are typically used to show the performance of health plans or providers relative to each other or to some other standard.

1. **Why are symbols an effective strategy for displaying comparative quality data to consumers?**

   Displays of symbols are an efficient way to communicate how a provider performs *relative to a single point of comparison* (e.g., a local average) without showing numbers or making users assess for themselves if the difference in performance is meaningful. The use of symbols also overcomes many of the visual and cognitive challenges posed by numerical displays. If the symbols are well chosen, consumers can understand the information without having to interpret and process a page of numbers.

2. **What is known about using symbols to display comparative quality data to consumers?**

   Because symbols are so familiar due to their use in restaurant and movie ratings, people generally understand that more symbols—for example, more stars—convey better performance.[1] Also, a study on the usability of several display strategies, including symbols, found that using stars to present comparative information makes it easier for consumers to identify higher-performing health plans, compared to a display that did not use stars.[2]

3. **What issues does our Alliance need to consider if we want to use symbols in a display of quality information for consumers?**

   Although implementing symbols is a highly feasible display strategy, it is important to take several steps to ensure that they provide useful information and do not misrepresent the level of providers' performance or inadvertently cause users to misinterpret the information.

   - **Set cutpoints.** Sorting providers into performance categories requires a judgment of where to draw the lines that separate each category from the others (referred to as cutpoints). It also involves determining where to put providers whose performance is close to the cutpoint (i.e., they could easily go in either category). Whether a provider gets two stars or three, for example, depends on how those statistical decisions are made. One effective strategy for dealing with this issue is to err on the side of giving providers the benefit of the doubt and putting them into the relatively higher category.

   - **Show variations in performance.** The use of symbols to show relative performance loses its value when performance doesn't actually vary significantly across providers. Reports where all providers receive two stars (representing "average" performance)

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[1] "Providing Self-Explanatory Symbols," *TalkingQuality*, Agency for Healthcare Research and Quality, U.S. Department of Health & Human Services. Available at:
https://www.talkingquality.ahrq.gov/content/create/display/symbols.aspx

[2] Hibbard JH, Peters EM. Supporting informed consumer health care decisions: data presentation approaches that facilitate the use of information in choice. *Annual Review of Public Health.* 2003. 24, 413–433.

simply convey the message that everyone is the same. This message conflicts with the goal of helping consumers understand that health care quality varies. In many cases, you can address this problem by applying a different scoring strategy or using a different point of comparison (such as the 75th percentile rather than the mean) to raise the bar and reveal differences in performance.

- **Select symbols with clear meaning.** While it may seem straightforward, choosing a symbol for the purposes of comparative reporting is not easy. In addition to the shape of the symbol, you have to select a color and decide how each symbol aligns with performance levels. The best symbols are ones that do not require an explanation and make it easy to see the performance of providers relative to each other. One way to do that is to create a contrast in color and/or shape between the high and low performers so that the differences stand out. It is also important to use symbols consistently so that they have the same meaning no matter where in the report the user sees them.

- **Test your choices with consumers.** It is critical to test the shape and color of the symbol with your likely audience to understand what the symbol means to that audience and how the audience would use the symbol to interpret performance. Also, for some populations, shapes and colors may have a significance that you did not anticipate.

  To learn more about how to test symbols with consumers, please refer to:

  - [How to Get Consumer Feedback and Input into Websites](#) (AIR)
  - [The Purpose and Process of Cognitive Testing](#) (TalkingQuality, AHRQ)

Word Icons

Word icons combine graphic symbols with words that clearly indicate the category of performance for a provider based on its scores relative to a comparison point. Examples of quality reports that currently use words icons include:

- Oregon Health Care Quality Corporation's reports for medical practices: www.partnerforqualitycare.org
- The California HealthCare Foundation's report on hospital quality: www.CalHospitalCompare.org

1. **Why are word icons an effective strategy for displaying comparative quality data to consumers?**

   Word icons take the idea of a visual cue one step further by essentially incorporating the legend into the symbol so that there is little or no opportunity for misinterpretation. Incorporating the word or label into the symbol reduces the cognitive burden of the information and helps consumers use the information.

2. What is known about using word icons to display comparative quality data to consumers?

A study of various display strategies found that using words icons significantly reduces the effort required of the user to understand and use comparative information. The use of word icons enabled consumers to correctly identify the three top performing doctors and the three lowest performing doctors.[3]

3. What issues does our Alliance need to consider if we want to use word icons in a display of quality information for consumers?

When adapting or using word icons, there are several factors to consider:

- **Set cutpoints.** As with other symbols, users of word icons have to establish cutpoints and determine how to categorize scores that are close to a cutpoint. Sorting providers into performance categories requires a judgment of where to draw the lines that separate each category from the others, referred to as cutpoints.

- **Assess the appropriateness of labels in the context of the point of comparison**. When choosing words to associate with the icons, it is important to select words that fairly and accurately represent the performance of providers relative to the point of comparison. For example, if the national average is 90 percent, *a provider with a score of 86 percent may fall into the "below average" category* based on the performance cutpoints. However, labeling that provider as "poor" may be neither accurate nor fair from the provider's perspective—and may be misleading to consumers.

- **Test your choices with consumers.** It is critical to test the word icons—the words as well as the shapes and colors—with your likely audience to understand what the display means to that audience and how the audience would use the word icons to interpret performance. To learn more about how to test word icons with consumers, please refer to:

  - [How to Get Consumer Feedback and Input into Websites](#) (AIR)
  - [The Purpose and Process of Cognitive Testing](#) (TalkingQuality, AHRQ)

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[3] Carman KL. Improving quality information in a consumer-driven era: showing the differences is crucial to informed consumer choice. Presentation at the 10th National CAHPS® User Group Meeting, Baltimore, MD, 2006 (https://www.cahps.ahrq.gov/content/community/events/UGM10/files/DAY2_c&d_1_Carman.pdf). This research was led by Kristin Carman, PhD, the American Institutes for Research (AIR), done in collaboration with AIR CAHPS II team members Jeanne McGee, PhD (McGee & Evers Consulting, Inc.) and Judith Hibbard, DrPH (University of Oregon).

A quality framework is a way to organize quality measures by grouping them into categories. The idea is that the larger categories can make the concept of quality more concrete by focusing on dimensions of care (e.g., effective, safe, and patient-focused). These chunks are easier to process than discrete data points.

1. **Why is a quality framework an effective strategy to display comparative quality data to consumers?**

   The use of a quality framework helps consumers understand the meaning of health care quality and why quality scores matter, a common barrier to using comparative reports. The framework also reduces the need for users to figure out the meaning of individual indicators because the framework categories provide a context and meaning for each group of measures. Also, a quality framework can be combined with other display strategies. For example, symbols or word icons can be used within the framework to present a score (see page 28 of AIR's guide, How to Display Comparative Information That People Can Understand and Use).

2. **What is known about using a quality framework to display comparative quality data to consumers?**

   A number of studies have shown that providing consumers with a framework for understanding quality helps them understand and value a broader range of quality indicators.[4] For example, a controlled study by Hibbard and colleagues found that providing users of a quality report with a translated and abridged three-category IOM quality framework of "effective, safe, and patient-focused" increased comprehension and the perceived value of quality information (as compared to those who did not get a framework).[5] (This framework can be found on page 28 of AIR's guide, How to Display Comparative Information That People Can Understand and Use.) The study further found that translating "safe, effective, and "patient-centered" into plain language was also important.

   To learn more about this topic, see the TalkingQuality Web site:

   - Studies on grouping measures into categories that consumers can understand: https://www.talkingquality.ahrq.gov/content/create/sixdomains.aspx.

   - "Organizing Measures by Quality Domain:" https://www.talkingquality.ahrq.gov/content/create/organize/qualitydomain.aspx

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[4] "Organizing Measures by Quality Domain," TalkingQuality: https://www.talkingquality.ahrq.gov/content/create/sixdomains.aspx

[5] Hibbard JH, Greene J, Daniel D. What is quality anyway? Performance reports that clearly communicate to consumers the meaning of quality of care. *Medical Care Research Review.* 2010; 67: 275–293.

3. **What issues does our Alliance need to consider if we want to use a quality framework in a display of quality information for consumers?**

When adapting or using a quality framework for your measures, there are several factors to consider:

- **Carefully assess the nature and number of the measures you have to report.** The appropriateness of a quality framework in a comparative report depends in large part on what measures you can report. In the absence of measures that can be sorted into two or more categories, a quality framework is still feasible—but the benefits are limited to helping users understand that quality has multiple domains and creating some pressure for information in the missing categories. Additionally, you wouldn't want to encourage users to conclude that a provider offers high quality care based on performance in just two categories.

- **Anticipate that identifying appropriate categories for every measure may be challenging.** While many quality measures fit neatly into the three-category framework, it can be difficult to determine the best category for some measures. Measures of the adoption of health information technology, for example, could be regarded as contributing to the safety, effectiveness, or patient-centeredness of care.

- **Test your choices with consumers.** It is critical to test a quality framework with consumers to determine whether or not the categories are meaningful and help them use the information. To learn more about how to test a quality framework with consumers, please refer to:
    - [How to Get Consumer Feedback and Input into Websites](#) (AIR)
    - [The Purpose and Process of Cognitive Testing](#) (TalkingQuality, AHRQ)