THE CAHPS CLINICIAN & GROUP SURVEY DATABASE

How Results Are Calculated

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How Results Are Calculated

Levels of Results

CAHPS Clinician & Group Survey (CG-CAHPS) data are submitted and results are calculated at three levels: respondent, practice site, and group.

- **Respondent:** A respondent is defined as an individual patient who has completed a CG-CAHPS survey. Respondent level survey results are calculated across all respondents in the database, ignoring their association with a particular practice site or group.

- **Practice Site:** A practice site is an outpatient facility in a specific location. It can be considered as a medical office. Each practice site located in a building containing multiple medical offices is considered a separate practice site. Providers in a single practice site should share administrative and clinical support staff. Practice site level survey results are calculated across the respondents within a specific practice site. One limitation to practice site level scores is that some data submissions could have included respondents from more than one location yet who are all assigned to one practice site.

- **Group:** A group can be defined as a medical group, health system, State organization, or some other grouping of practice sites. A group is not a vendor organization. Group-level survey results are calculated across the respondents within a specific group, ignoring practice site associations.

Results for the 12-month Child 2.0 and 12-month PCMH Child 2.0 surveys were combined for the 2012 data set because of the relatively small number of practice sites and respondents submitted for each survey type.

Data Adjustments

CAHPS survey results can be adjusted to account for factors that may affect scores. Without an adjustment, differences between practice sites, groups or other entities could be due to differences in external factors rather than to true differences in performance. CAHPS data are most commonly adjusted for respondent characteristics (i.e., case-mix adjustments), but also can be adjusted for other factors such as the survey administration mode.

- **Case-mix adjustments.** CG-CAHPS scores are case-mix adjusted where applicable and noted in the explanations below, on the following respondent characteristics: respondent age, education, and self-reported health status

- **Survey mode adjustments.** CG-CAHPS surveys can be administered using different modes, including mail (the most common method), telephone, interactive voice response (IVR), and Web/Internet. We have not yet determined the influence of administration mode on CG-CAHPS scores, and therefore the current data are not adjusted by survey mode. However, the vast majority of surveys in the current database were collected using mail administration, and therefore the influence of other survey modes such as telephone, IVR, and Web/Internet on the results would most likely be minimal.
How Results Are Calculated

Top Box and Proportional Scores

Top box scores are created by calculating the percentage of survey respondents who chose the most positive score for a given item response scale. There are several different response scales used on the CG-CAHPS surveys. Table 1 displays the different response scales and how the options are categorized for top box and proportional scoring. For example, top box scores use “Always” on the “Always-Never” scale.

Table 1. Top Box and Proportional Score Crosswalk to Response Scales

<table>
<thead>
<tr>
<th>Response Scale</th>
<th>Lower Proportion</th>
<th>Middle Proportion</th>
<th>Top Box Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never, Sometimes, Usually, Always</td>
<td>Sometimes, Never</td>
<td>Usually</td>
<td>Always</td>
</tr>
<tr>
<td>Not at all, A little, Some, A Lot</td>
<td>Not at all</td>
<td>A little, Some</td>
<td>A lot</td>
</tr>
<tr>
<td>No, Yes</td>
<td>No</td>
<td>--</td>
<td>Yes</td>
</tr>
<tr>
<td>No, Yes somewhat, Yes definitely</td>
<td>No</td>
<td>Yes somewhat</td>
<td>Yes definitely</td>
</tr>
<tr>
<td>0-6, 7-8, 9-10</td>
<td>0-6</td>
<td>7-8</td>
<td>9-10</td>
</tr>
<tr>
<td>More than 7 days, 2 to 3 days + 4 to 7 days, Same day + One day</td>
<td>More than 7 days</td>
<td>2 to 3 days, 4 to 7 days</td>
<td>Same day, One day</td>
</tr>
</tbody>
</table>

The top box score is calculated at the respondent level. For example, in a sample of 10 respondents, if 4 out of 10 respondents answered “Always” to a particular item, the top box score for that item would be 40 percent [i.e., (4 ÷ 10) * 100 = 40%]. Because these calculations are made across all respondents, top box scores are not case-mix adjusted for patient characteristics.

Given a composite with five items, where each item has four response options, a provider's score for that composite is the proportion of responses (excluding missing data) in each response category. The following steps show how those proportions are calculated:

Step 1 – Calculate the proportion of cases in each response category for each question:

\[ P_1 = \text{Item proportion of respondents who answered “never” or “sometimes”} \]
\[ P_2 = \text{Item proportion of respondents who answered “usually”} \]
\[ P_3 = \text{Item proportion of respondents who answered “always” (this is the top box score)} \]

Step 2 – Combine responses from the questions to form the composite

Calculate the average proportion responding to each category across the questions in the composite. For example, in the “Getting Appointments and Health Care When Needed” composite (five questions), calculations would be as follows:

\[ PC_1 = \text{Composite proportion who responded “never” or “sometimes” for each item} = \frac{P_{1-Q1} + P_{1-Q2} + P_{1-Q3} + P_{1-Q4} + P_{1-Q5}}{5} \]

\[ PC_2 = \text{Composite proportion who responded “usually” for each item} = \frac{P_{2-Q1} + P_{2-Q2} + P_{2-Q3} + P_{2-Q4} + P_{2-Q5}}{5} \]

\[ PC_3 = \text{Composite Top box proportion who responded “always” for each item} = \frac{P_{3-Q1} + P_{3-Q2} + P_{3-Q3} + P_{3-Q4} + P_{3-Q5}}{5} \]
How Results Are Calculated

As shown in steps 1 and 2, composite top box scores are calculated by averaging the top box scores on the items within the composite. Each item in a composite is equally weighted. For example, the “Helpful, Courteous, and Respectful Office Staff” composite has two items. If the top box score for the first item is 85% and the second item is 95%, the composite score would be 90% (i.e., \([85\% + 95\%] \div 2 = 90\%\)). The same method is used for the other proportional scores.

The PCMH supplemental item “Providers Discuss Medication Decisions” composite has 3 items that are on two different response scales (Yes/No and A lot/Not at all). An example of how to create this composite’s top box and proportional scores is provided in Tables 2 and 3. Table 2 provides sample proportional scores for the items in the “Providers Discuss Medication Decisions” composite. Using the sample proportional scores in Table 2, Table 3 shows how the composite top box and proportional scores are calculated.

**Table 2. Sample “Providers Discuss Medication Decisions” Items Proportional Scores**

<table>
<thead>
<tr>
<th>Response Scale</th>
<th>Q29</th>
<th>Q30</th>
<th>Q31</th>
</tr>
</thead>
<tbody>
<tr>
<td>A lot or Yes</td>
<td>65%</td>
<td>55%</td>
<td>80%</td>
</tr>
<tr>
<td>Some</td>
<td>10%</td>
<td>20%</td>
<td>0%</td>
</tr>
<tr>
<td>A little</td>
<td>15%</td>
<td>20%</td>
<td>0%</td>
</tr>
<tr>
<td>Not at all or No</td>
<td>10%</td>
<td>5%</td>
<td>20%</td>
</tr>
</tbody>
</table>

**Table 3. Example of Calculation of “Providers Discuss Medication Decisions” Composite Proportional Scores**

<table>
<thead>
<tr>
<th>Response Scale</th>
<th>Q29</th>
<th>Q30</th>
<th>Q31</th>
<th>Composite Proportional Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A lot or Yes (Top Box Score)</td>
<td>65%</td>
<td>55%</td>
<td>80%</td>
<td><strong>66.67%</strong> (=\frac{65%+55%+80%}{3})</td>
</tr>
<tr>
<td>Some</td>
<td>10%</td>
<td>20%</td>
<td>0%</td>
<td><strong>10%</strong> (=\frac{10%+20%+0%}{3})</td>
</tr>
<tr>
<td>A little</td>
<td>15%</td>
<td>20%</td>
<td>0%</td>
<td><strong>11.67%</strong> (=\frac{15%+20%+0%}{3})</td>
</tr>
<tr>
<td>Not at all or No</td>
<td>10%</td>
<td>5%</td>
<td>20%</td>
<td><strong>11.67%</strong> (=\frac{10%+5%+20%}{3})</td>
</tr>
</tbody>
</table>

**Percentiles**

Percentile scores are calculated at the practice-site level and represent the percentage of practice sites that scored at or below a particular top box score for an item or composite. For example, the 75th percentile is the top box score at or below which 75 percent of all practice site top box scores fall. Percentiles range from 0 to 100. The 90th, 5th, 50th, and 25th percentiles are presented for all composites and items. As top box scores are not case-mix adjusted for patient characteristics, percentiles are similarly not adjusted.
Practice Site Performance Measures

- **Delta** represents the difference between each practice site’s item and composite top box score from the overall database average score. The overall item/composite database average is obtained by calculating the average item/composite top box score across all practice sites. For example, if the “Access to Care” composite top box scores for three sites were Site 1 = 28 percent, Site 2 = 26 percent, and Site 3 = 34 percent, then the overall database average “Access to Care” composite would be calculated by summing the three sites’ composite scores and then dividing by the number of sites (i.e., \( [28\% + 26\% + 34\%] ÷ 3 = 29.33\% \)). Delta is then obtained by subtracting each site’s item/composite score from the overall database average. For example, for Site 1 used in the example above, delta for the “Access to Care” composite is 28% - 29.33% = -1.33%, which means that this site’s composite score is 1.33 percent below the overall database average for this composite.

- **Significance tests (‘arrows’).** Statistical tests (t-tests) are used to determine whether a practice site’s mean item or composite score is significantly above or below the overall database mean item or composite score. These statistical tests are based on a practice site’s case-mix adjusted mean item or composite score rather than the top box scores or proportional scores represented in the bar charts. If a practice site’s mean item/composite score is significantly higher or lower than the overall database mean, an ‘up’ or ‘down’ arrow is assigned respectively. If there is no significant difference between the site and overall database mean, no arrow is assigned. Because the statistical tests are based on practice site means, the results may not always appear to be completely in line with top box scores or proportional scores represented by bar charts, or the Delta differences scores.

Database Reporting Rules and Guidelines

In the CAHPS Database Online Reporting System, there are circumstances under which certain item/composite scores, practice site/group results, or reporting categories are suppressed (i.e., ‘NA’ is displayed). There are also times when certain practice sites are excluded from percentile calculations. These instances of data suppression and/or exclusion are due to one or more of the following factors: (1) too few respondents responding to an item, (2) a practice site (or group) having too few completed surveys, or (3) too few practices and/or respondents for a particular reporting category. The rules for data suppression and exclusion are described below.

1. If there are fewer than 10 completed surveys for a given practice site or group, the practice site or group is excluded from percentile calculations and the practice site’s or group’s results are suppressed on the submitter’s site.
2. If a practice site or group dropped one or more composite items from their survey administration, the data for that practice site or group are excluded from corresponding composite score calculations on the public site and are suppressed on the submitter’s site.
3. When displaying scores by practice site characteristics (e.g., practice ownership/affiliation), a particular characteristic’s results are suppressed if there are fewer than five practice sites and/or fewer than 300 completed surveys available for that characteristic.
4. If there are fewer than five valid responses available for any given item, the item’s results are suppressed.
5. For the two and three-way frequency tables if one of the items is a demographic or practice site characteristic and there are fewer than five valid responses for any of that item’s response categories, all frequency table results are suppressed.
Survey data that were collected using an in-office handout method were excluded from all database calculations.