

# Patient Experience Measures from the CAHPS® Child Hospital Survey

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## Documents Available for the CAHPS Child Hospital Survey

This document is part of a set of instructional materials that address implementing the Child Hospital Survey, analyzing the data, and reporting the results. All documents are available on the Agency for Healthcare Research and Quality's Web site: [www.ahrq.gov/cahps](http://www.ahrq.gov/cahps). For assistance in accessing these documents, please contact the CAHPS Help Line at 800-492-9261 or [cahps1@westat.com](mailto:cahps1@westat.com).

For descriptions of these documents, refer to *What's Available for the Child Hospital Survey*.

### Questionnaire

- *CAHPS Child Hospital Survey: Overview of the Questionnaire*
- *CAHPS Child Hospital Survey 1.0* (English and Spanish)

### Survey Administration Guidelines

- *Fielding the CAHPS Child Hospital Survey*
- *Sample Notification Letters and Emails for the CAHPS Child Hospital Survey*
- *Sample Telephone Script for the CAHPS Child Hospital Survey*
- *Translating CAHPS Surveys*

### Data Analysis Program and Guidelines

- *CAHPS Analysis Program (SAS)*
- *Instructions for Analyzing Data from CAHPS Surveys*

### Reporting Measures and Guidelines

- *Patient Experience Measures from the CAHPS Child Hospital Survey*

## Introduction

This document reviews the types of measures associated with the CAHPS Child Hospital Survey; lists the composite, single-item, and rating measures generated by this survey; and offers basic guidance on reporting the survey results to consumers and other audiences.

## Types of Measures

Like all CAHPS surveys, the CAHPS Child Hospital Survey generates three types of results for reporting purposes:

- **Rating measures** are based on items that use a scale of 0 to 10 to measure parents' assessments of the hospital in which their child had an inpatient stay. This measure is sometimes referred to as the “global rating” or “overall rating.”
- **Composite measures** (also known as reporting composites) combine results for closely related items that have been grouped together. Composite measures are strongly recommended for both public and private reporting because they allow for reports that are comprehensive, yet of reasonable length.<sup>1</sup>

See Appendix B for a basic overview of how the survey items are combined to come up with composite measures; for details on how the CAHPS analysis program calculates composite measures, please see *Instructions for Using CAHPS Analysis Programs*.

- **Single-item measures** are individual survey questions that did not fit into composite measures. The core survey includes many items that can be reported individually. These single-item measures are especially useful in reports for providers and other internal audiences that use the data to identify specific strengths and weaknesses.

Several of the single-item measures in this survey are recommended for reporting to consumers if the results are sufficiently reliable. When reporting single-item measures, it is important to indicate that the measure reflects performance on just one survey question in contrast to the multiple questions represented by composite measures.

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<sup>1</sup> 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.

## Measures from the Child Hospital Survey

The CAHPS Child Hospital Survey produces 18 measures, including composite measures, single-item measures, and rating measures. Testing with the target audience of parents confirmed that all of these measures provide important information. However, the sheer number of measures from this survey poses a challenge for report developers: it is difficult for most people to understand and use a list of scores for 18 measures at the same time.<sup>2</sup>

One way to address this concern is to organize the list of measures by topic, as shown below. Cognitive testing with parents indicated that the use of these groupings made it easier for respondents to identify and focus on the measures and scores that mattered most to them. Please note that these topics are simply a way of organizing the measures; they are not intended to suggest a way to create and report summary measures.

Organizations reporting scores for the CAHPS Child Hospital Survey in reports for consumers and other audiences are encouraged to use the following labels for the measures and topics. Suggested descriptions for each measure are provided in Appendix A.

### ***Topic: Communication with Parent***

- Communication between you and your child's nurses (composite of 3 items)
- Communication between you and your child's doctors (composite of 3 items)
- Communication about your child's medicines (composite of 4 items)
- Keeping you informed about your child's care (composite of 2 items)
- Preparing you and your child to leave the hospital (composite of 5 items)
- Privacy when talking with doctors, nurses, and other providers (1 item)
- Keeping you informed about your child's care in the ER (1 item)

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<sup>2</sup> To learn more about reducing the cognitive burden imposed by reports with a large number of measures, refer to the Agency for Healthcare Research and Quality's TalkingQuality Web site: <https://cahps.ahrq.gov/consumer-reporting/talkingquality/create/organize/index.html>.

***Topic: Communication with Child***

- How well nurses communicate with your child (composite of 3 items)
- How well doctors communicate with your child (composite of 3 items)
- Involving teens in their care (composite of 3 items)

***Topic: Attention to Safety and Comfort***

- Preventing mistakes and helping you report concerns (composite of 2 items)
- Helping your child feel comfortable (composite of 3 items)
- Responsiveness to the call button (1 item)
- Paying attention to your child's pain (1 item)

***Topic: Hospital Environment***

- Cleanliness of hospital room (1 item)
- Quietness of hospital room (1 item)

***Global Rating***

- Overall rating of hospital (1 item)
- Willingness to recommend the hospital (1 item)

A list of the items included in each of these measures is provided in **Appendix A**.

## **Guidance on Reporting Child Hospital Survey Measures**

Users of the CAHPS Child Hospital Survey may report the results of the survey publicly to inform health care consumers and/or privately to inform hospital administrators, physicians, and other staff and support their efforts to improve patients' experiences with care. While the basic content included in these reports may be the same, the specific content should differ because the purposes differ.

In reports intended for consumers, the goal is to provide information that people can use to assess and compare the performance of hospitals and identify those that best meet their needs. Survey results are typically reported along with other measures of

quality and safety. For that reason, the presentation of measures and scores must be concise and easily digestible. While it may seem ideal to report all available measures, there is a trade-off between offering an array of performance scores and overwhelming consumers with more information than they can process. Organizing the measures by topic is one way to address this issue. Another strategy for avoiding “information overload” among consumers is to limit the number of patient experience measures in a report. While all measures from the Child Hospital Survey could be included in a consumer reports, report sponsors may choose to identify a subset of measures that are especially relevant to their audience.

When selecting measures for a public report, it is also important to consider the hospital-level reliability of the results. Recommended sample sizes have been shown to produce reliable results for the measures. However, the actual reliability of your results may vary depending on a number of factors. Users may choose to calculate the reliability of their results to ensure a sufficient level for public reporting.

Similarly, users are encouraged to consider the number of responses that are analyzed for two measures: “Involving teens in their care” and “Keeping You Informed About Your Child’s Care in the ER.” Since not all parents who respond to the survey have children for which these items are applicable, the number of responses for these measures will be less than it is for the other measures, which are applicable to most or all of the population surveyed. In field tests, the results for these measures were reliable when hospitals used the recommended sample sizes, but the reliability of your results for these measures will depend on the parents and children sampled for your hospital. If a sufficient number of responses were not obtained for the items in these measures, you may not want to include that measure in a public report.

For guidance on developing reports of comparative information for consumers, refer to –

- The *Consumer Reporting* section of the CAHPS Web site: <http://www.ahrq.gov/cahps/consumer-reporting/index.html>
- *TalkingQuality*: <http://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/index.html>

A report intended for hospital staff and other internal audiences must also be clear and concise, but can and should contain more information about the survey scores in order to support use of the results to identify both strengths and opportunities for improvement. For example, these reports can provide different kinds of comparators, such as local or State averages and percentiles, as well as trend data, if available. They can also offer a greater level of detail, such as results at the item level, results for any supplemental items, and the full range of survey responses (e.g., the percentage for each possible response). Moreover, these reports can include measures that did not achieve a high enough level of reliability at the suggested sample sizes to be recommended for public reporting. A high hospital-level reliability is not

necessary for a measure to provide useful information for quality improvement. With this information, providers are equipped to analyze their data and take steps towards improving their patients' experiences.

- For guidance on improving CAHPS survey results, visit the *Quality Improvement* section of the CAHPS Web site:  
<http://www.ahrq.gov/cahps/quality-improvement/index.html>
- For guidance specific to improving patient experience with hospital care, visit <http://www.ahrq.gov/cahps/surveys-guidance/hospital/improve/index.html>

## Appendix A: Measures from the CAHPS Child Hospital Survey

The tables below list the survey items included in the measures and provide a description for each measure. Please note that while the measure labels were tested with consumers, these descriptions have not been tested.

**Topic: Communication with Parent**

Communication Between You and Your Child’s Nurses		
The survey asked how often nurses listened carefully to the parent, explained things to the parent in an easy-to-understand way, and treated the parent with courtesy and respect.		
Q14	Nurses listened carefully to parent	<b>Response Options</b> <ul style="list-style-type: none"> <li>• Never</li> <li>• Sometimes</li> <li>• Usually</li> <li>• Always</li> </ul>
Q15	Nurses explained things to parent in a way that was easy to understand	
Q16	Nurses treated parent with courtesy and respect	

Communication Between You and Your Child’s Doctors		
The survey asked how often doctors listened carefully to the parent, explained things to the parent in an easy-to-understand way, and treated the parent with courtesy and respect.		
Q17	Doctors listened carefully to parent	<b>Response Options</b> <ul style="list-style-type: none"> <li>• Never</li> <li>• Sometimes</li> <li>• Usually</li> <li>• Always</li> </ul>
Q18	Doctors explained things to parent in a way that was easy to understand	
Q19	Doctors treated parent with courtesy and respect	



**Communication About Your Child's Medicines**

The survey asked whether the parent was asked about the child's prescription medicines, vitamins, herbal medicines, and over-the-counter medicines.

The survey also asked whether a provider explained how to take new medicines after leaving the hospital and the side effects of those medicines.

Q5	Parent was asked about child's prescription medicines	<b>Response Options</b> <ul style="list-style-type: none"> <li>• Yes, definitely</li> <li>• Yes, somewhat</li> <li>• No</li> </ul>
Q6	Parent was asked about child's vitamins, herbal medicines, and over-the-counter medicines	
Q39	Providers explained how child should take new medicines after leaving the hospital	
Q40	Providers explained side effects of new medicines to be taken after leaving the hospital	

**Keeping You Informed About Your Child's Care**

The survey asked how often providers kept the parent informed about care and gave the parent enough information about test results.

Q23	Providers kept parent informed about care	<b>Response Options</b> <ul style="list-style-type: none"> <li>• Never</li> <li>• Sometimes</li> <li>• Usually</li> <li>• Always</li> </ul>
Q25	Providers gave parent enough information about test results	

**Privacy When Talking With Doctors, Nurses, and Other Providers**

The survey asked how often the parent had privacy with providers when discussing the child's care.

Q20	Parent had privacy when discussing child's care with providers	<b>Response Options</b> <ul style="list-style-type: none"> <li>• Never</li> <li>• Sometimes</li> <li>• Usually</li> <li>• Always</li> </ul>
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**Preparing You and Your Child to Leave the Hospital**

The survey asked whether the provider asked the parent about the child’s readiness to leave, talked with the parent about care after discharge, and explained when the child could resume regular activities.

The survey also asked whether the provider explained symptoms or problems to look for after discharge and whether the parent was given written information about symptoms or problems to look for after discharge.

Q36	Provider asked parent about child’s readiness to leave the hospital	<b>Response Options</b> <ul style="list-style-type: none"> <li>• Yes, definitely</li> <li>• Yes, somewhat</li> <li>• No</li> </ul>
Q37	Provider talked with parent about care after leaving the hospital	
Q41	Provider explained when child can resume regular activities	
Q42	Provider explained symptoms or problems to look for after leaving the hospital	
Q43	Parent received written information about symptoms or problems to look for after leaving the hospital	

**Keeping You Informed About Your Child’s Care in the ER**

The survey asked whether the parent was kept informed about care in the emergency room.

Q4	Parent kept informed about child’s care in emergency room	<b>Response Options</b> <ul style="list-style-type: none"> <li>• Yes, definitely</li> <li>• Yes, somewhat</li> <li>• No</li> </ul>
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*Topic: Communication with Child*

**How Well Nurses Communicate With Your Child**

The survey asked how often nurses listened carefully to the child, explained things to the child in an easy-to-understand way, and encouraged the child to ask questions.

Q8	Nurses listened carefully to child	<b>Response Options</b> <ul style="list-style-type: none"> <li>• Never</li> <li>• Sometimes</li> <li>• Usually</li> <li>• Always</li> </ul>
Q9	Nurses explained things to child in a way that was easy to understand	
Q10	Nurses encouraged child to ask questions	

<b>How Well Doctors Communicate With Your Child</b>		
The survey asked how often doctors listened carefully to the child, explained things to the child in an easy-to-understand way, and encouraged the child to ask questions.		
Q11	Doctors listened carefully to child	<b>Response Options</b> <ul style="list-style-type: none"> <li>• Never</li> <li>• Sometimes</li> <li>• Usually</li> <li>• Always</li> </ul>
Q12	Doctors explained things to child in a way that was easy to understand	
Q13	Doctors encouraged child to ask questions	

<b>Involving Teens in Their Care</b>		
The survey asked whether providers involved teens in their care, asked teens questions about readiness to leave, and talked with teens about care after discharge.		
Q45	Providers involved teen in discussions about care	<b>Response Options</b> <ul style="list-style-type: none"> <li>• Never</li> <li>• Sometimes</li> <li>• Usually</li> <li>• Always</li> </ul>
Q46	Provider asked teen about readiness to leave the hospital	
Q47	Provider talked with teen about care after leaving the hospital	<b>Response Options</b> <ul style="list-style-type: none"> <li>• Yes, definitely</li> <li>• Yes, somewhat</li> <li>• No</li> </ul>

***Topic: Attention to Safety and Comfort***

<b>Preventing Mistakes and Helping You Report Concerns</b>		
The survey asked the parent how often providers checked the child's identity before giving medicines and whether providers told the parent how to report mistakes.		
Q29	Providers checked child's identity before giving medicines	<b>Response Options</b> <ul style="list-style-type: none"> <li>• Never</li> <li>• Sometimes</li> <li>• Usually</li> <li>• Always</li> </ul>
Q30	Providers told parent how to report mistakes	
		<b>Response Options</b> <ul style="list-style-type: none"> <li>• Yes, definitely,</li> <li>• Yes, somewhat</li> <li>• No</li> </ul>

**Helping Your Child Feel Comfortable**

The survey asked whether providers asked about things a family knows best about their child and talked and acted in a way that was age-appropriate for the child.

The survey also asked whether the hospital had things like toys, books, and games that were right for the child's age.

Q21	Providers asked about things a family knows best about child	<b>Response Options</b> <ul style="list-style-type: none"> <li>• Yes, definitely</li> <li>• Yes, somewhat</li> <li>• No</li> </ul>
Q35	Hospital had things available that were right for child's age	
Q22	Providers talked and acted in a way that was appropriate for child's age	<b>Response Options</b> <ul style="list-style-type: none"> <li>• Never</li> <li>• Sometimes</li> <li>• Usually</li> <li>• Always</li> </ul>

**Responsiveness to the Call Button**

The survey asked whether the parent and child got prompt help when they pressed the call button.

Q27	Parent or child got help after pressing call button	<b>Response Options</b> <ul style="list-style-type: none"> <li>• Never</li> <li>• Sometimes</li> <li>• Usually</li> <li>• Always</li> </ul>
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**Paying Attention to Your Child's Pain**

The survey asked whether providers asked about the child's pain.

Q32	Providers asked about child's pain	<b>Response Options</b> <ul style="list-style-type: none"> <li>• Yes, definitely</li> <li>• Yes, somewhat</li> <li>• No</li> </ul>
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*Topic: Hospital Environment*

Cleanliness of Hospital Room		
The survey asked the parent how often the room and bathroom were kept clean.		
Q33	Room and bathroom were kept clean	<b>Response Options</b> <ul style="list-style-type: none"> <li>• Never</li> <li>• Sometimes</li> <li>• Usually</li> <li>• Always</li> </ul>

Quietness of Hospital Room		
The survey asked the parent how often the area around the room was quiet at night.		
Q34	Room was quiet at night	<b>Response Options</b> <ul style="list-style-type: none"> <li>• Never</li> <li>• Sometimes</li> <li>• Usually</li> <li>• Always</li> </ul>

*Topic: Global Ratings*

Overall Rating of Hospital		
The survey asked the parent to rate the hospital on a scale of 0 to 10, with 0 being the worst and 10 being the best.		
Q48	Rating of hospital	<b>Response Options</b> <ul style="list-style-type: none"> <li>• 0-10</li> </ul>

Willingness to Recommend the Hospital		
The survey asked the parent whether he/she would recommend the hospital to family and friends.		
Q49	Recommend hospital to family and friends	<b>Response Options</b> <ul style="list-style-type: none"> <li>• Definitely no</li> <li>• Probably no</li> <li>• Probably yes</li> <li>• Definitely yes</li> </ul>

## Appendix B: How to Calculate Composite Scores for Reporting

All users of CAHPS surveys can apply the SAS®-based CAHPS Analysis Program (also referred to as the CAHPS macro) to calculate performance scores for individual items—including the rating measure—and composite measures. The analysis programs and instructions for using those programs are available on the *CAHPS Hospital Survey and Instructions* page of the CAHPS site: [ahrq.gov/cahps](http://ahrq.gov/cahps).

The calculation of CAHPS survey composites uses a proportional scoring method, which basically generates a proportion for each response option.

There are three basic steps to this approach:

- Calculate the proportion of patient responses in each response category for each item in a composite.
- Combine these proportions for all items in a composite.
- Adjust for the case-mix of the patients who evaluated each hospital to allow comparison of scores across hospitals.

The details of the first two steps are spelled out below. The CAHPS Analysis Program handles these calculations as well as the case-mix adjustment.

This approach provides users with several options for reporting. Two recommended strategies are average scoring and “top box” scoring, which involves reporting only the score for the most positive categories (e.g., the proportion of patients reporting “always”).

### Applying the Proportional Scoring Method to Child Hospital Survey Composites

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

#### ***Step 1 – Calculate the proportion of cases in each response category for the first question***

P11 = Proportion of respondents who answered “never”

P12 = Proportion of respondents who answered “sometimes”

P13 = Proportion of respondents who answered “usually”

P14 = Proportion of respondents who answered “always”

Follow the same steps for the second question:

P21 = Proportion of respondents who answered “never”

P22 = Proportion of respondents who answered “sometimes”

P23 = Proportion of respondents who answered “usually”

P24 = Proportion of respondents who answered “always”

Repeat the same procedure for each of the questions in the composite.

***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 “How Well Doctors Communicate With Your Child” composite (three questions), calculations would be as follows:

PC1 = Composite proportion who said “never” =  $(P11 + P21 + P31) / 3$

PC2 = Composite proportion who said “sometimes” =  $(P12 + P22 + P32) / 3$

PC3 = Composite proportion who said “usually” =  $(P13 + P23 + P33) / 3$

PC4 = Composite proportion who said “always” =  $(P14 + P24 + P34) / 3$