STEP 5.5: Evaluate quality measurement results for specific units of analysis

➡ What is the purpose of this step?

In Step 2, you identified specific units of analysis for which you would assess the quality of care. The purpose of this step is to calculate the quality measure findings for these specific units of analysis.

In this step you will:

☑ Calcuate the PHDS quality measures for each unit of analysis being measured.

☑ Consider issues related to provider-level scoring.

☑ Consider an additional PHDS quality measure.

Guidelines and Issues to Consider

☑ Calcuate the PHDS quality measures for each unit of analysis being measured.

> Once scores are calculated for each individual child on each quality measure, these individual-level scores need to be combined into a score for the entire unit you are measuring, such as a health plan, office, provider, or total population sampled. This is done by averaging all of the individual scores on a quality measure.

Group-level score $= \sum$ each individual respondents' quality measure scores

# of individuals with a quality measure score

> In other words, the group-level score is an average score for all respondents for whom a score could be calculated on that measure. Therefore, the denominator for the group-level score for the quality measure is NOT the total number of respondents; rather, it is the number of children whose parent answered at least half of the items for that quality measure.

Example 5.6: Group-Level Score

Let's say that you are scoring the *Health Information* quality measure for the Happy Health Plan, and Charlie, Lynn, Polly, and Sam are the children in the health plan whose parents have responded to the survey. (Forget about small numbers for the moment.)

The individual quality measure scores for each of the respondents are as follows:

Charlie = 75

Lynn = 100

Polly = 0

Sam = no score (only answered 1 of the 4 items included in the quality measure)

The group-level score for Quality Measure #2 is:

$$\text{Score} = \frac{75 + 100 + 0}{3} = \frac{175}{3} = \mathbf{\underline{58.33}}$$

Notice that Sam was not included in the calculation (numerator and denominator) since he did not have an individual score for the quality measure.

All of the group-level scores for each quality measure are calculated in this manner. Note that most statistical packages can calculate these scores for you automatically.

☑ Consider issues related to provider-level scoring.

There are two primary issues you need to consider when using the PHDS for provider-level analysis:

1) Provider to whom you should assign the completed PHDS or ProPHDS survey. This step determines what data source(s) will be used to identify the provider who most likely provided a majority of the care the parent responded about in the survey and therefore the survey scores should be assigned to that specific provider.

2) Minimimum number of completed surveys required to conduct provider-level analysis.

Below are specifications for addressing these two issues:

Issue #1: Provider to whom you should assign the completed PHDS or ProPHDS survey.

The PHDS items are not anchored to one provider, but instead ask the parent whether the child's "doctor or other health providers" did specific things. This wording allows for a team to provide well-child care (e.g., medical assistant, nurse, and physician), and allows for a child to have received well-child care from multiple people.

As highlighted in Step 2.4, CAHMI recommends that you include an item asking the parent to identify their child's personal doctor or other health provider(s) if you intend to use the results for provider-level analysis.

Therefore, most users will have three data sources that can be used to identify a provider to assign the completed PHDS survey.

Data Source #1: Parent report of their child's personal doctor or nurse.

- This is the person(s) the parent identified in the PHDS. Only those parents who report their child has a personal doctor or nurse are asked the follow-up question to indicate the specific person(s).

Data Source #2: Utilization data.

- For the most part, the care asked about in the PHDS should be provided during well-child visits. Therefore, it is valuable to identify the provider who was responsible for a majority of the well-child visits the child received in the last 12 months or since the child was born. If two providers were responsible for an equal number of visits, then you should identify the person(s) responsible for the most recent well-child visits.

Data Source #3: Enrollment data (applicable to managed care systems).

- In most managed care systems, the child is enrolled or assigned to a specific provider. Therefore, it is valuable to identify the provider with whom the child has been enrolled for the longest time in the last 12 months or since the child was born. If the child was enrolled with two providers for an equal amount of time, then you should identify the person(s) resposnible for the most recent well-child visits.

A single source or combination of these three data source(s) can then be used to identify the provider to whom you should assign the PHDS. **CAHMI recommends** that you explore the following before deciding which data source(s) to use:

- Examine the level of agreement between parent report and the utilization and enrollment data. If there is a low level of agreement, CAHMI recommends that you use parent-report as the gold standard.

- Examine the level of agreement between the enrollment and utilization data. If there is a low level agreement, then the utilzation data should be used.

- Consider using multiple data sources. For example, a managed care plan used the PHDS to create a provider-level report. A high degree of agreement was observed between parent report and the utlization and enrollment data, and a high level of agreement was observed between the utilization and enrollement data. Therefore, the managed care plan assigned the completed PHDS survey to the provider the child was enrolled with as his/her primary care provider, AND required that the child saw the provider for at least one well-child visit.

Issue #2: Mininimum number of completed surveys required to conduct provider-level analysis.

As described in **Step 2.2** (Table 2.2), **CAHMI recommends** that you have **30 completed surveys** per provider if you are creating un-blinded provider-level reports.

If a provider-level report is being disseminated to inform quality improvement activities and is only shared with the specific provider, you can create a report for a provider for whom you have **15 completed** surveys.

Other issues you should be sure to examine are:

$\Rightarrow$ Sample sizes for the age-specific groups (3–9 months old, 10–18 months old, and 19–48 months old) to address any sample size issues.
$\Rightarrow$ Sample size for the PHDS quality measures that only apply to specific groups of children (e.g., *Address Parental Concerns*, *Follow-Up for Children at Risk for Developmental, Behavioral, or Social Delays*).

⇒ Individual provider variation in the care he/she provides to various children and families: Providers who are very consistent in the care they provide across patients will need fewer surveys, as compared with providers who target certain discussions to certain patients.

⇒ Care Team: If the provider and nurse each provide components of the well-child visit, then more surveys may be needed as the provision of care by two individuals increases the level of variation in this communication-dependent measure.

☑ Consider an additional PHDS quality measure.

Another valuable way to assess the quality of comprehensive care provided at the office or provider level is to calculate the maximum number of individual care components routinely provided by a specific office or by a specific provider. This value can then be assigned to each child (using the provider or office to which the survey was assigned), and descriptive analyses can be conducted for children by the maximum number of individual care components their provider/office gave to children assessed in the PHDS.

This measure, called the "maximum number" quality measure, assesses the degree to which individual providers or groups of providers focus on specific aspects of preventive and developmental care.

Example 5.7 provides an example of the "maximum number" quality measure.

Example 5.7: Maximum Number Measure

The Healthy Happy Plan implemented the PHDS and is using the survey to assess for care in two offices (East and West). The Happy Health Plan created a count variable (**See Step 5.2**) of the number of components of care each child received (Maximum number=12). They then assessed, in each office, the maximum number of care components a child in that office received.

The individual "Maximum Number" measure scores for each of the office were as follows:

East Office:

Olivia = Received 4/12 individual care components

Christian = Received 5/12 individual care components

Henry = Received 6/12 individual care components

Range: 4–6 Maximum Number of Care Components = 6

West Office:

Mary= Received 10/12 individual care components

Billy= Received 11/12 individual care components

James = Received 10/12 individual care components

Range: 10–11 Maximum Number of Care Components = 11

The East Office providers seem to provide only certain aspects of care, while the providers in the West Office focus more globally on the various aspects of care measured in the PHDS.